

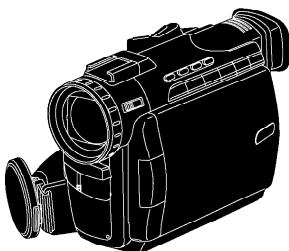
ORDER NO. VMD0102006C3

Digital Video Camcorder

Digital Palmcorder®

Mini DV

PV-DV101 / PV-DV401



Models: PV-DV101/ PV-DV401



Model: PV-DAC11-A

SPECIFICATIONS

ITEM	SPECIFICATION	1	2	ITEM	SPECIFICATION	1	2
Power Source	Palmcorder: 7.2 V DC (Battery) 7.8 V DC (AC Adaptor)	○	○	LCD Monitor	63.5 mm (2.5 inch) Liquid Crystal Display 76.2 mm (3.0 inch) Liquid Crystal Display	○	-
	AC Adaptor: 110/120/220/240 V AC, 50/60 Hz Battery: Lithium-Ion Type DC 7.2 V			Minimum Illumination Required	5 lx (F1:1.6) 0.5 footcandles 0 lx (MAGICVU/OLUX ON)	-	○
Power Consumption	Palmcorder: 7.2 V DC 6.5 W (Max. 9.5 W)	○	○	Image Storage (supplied 8 MB MultiMedia Card)	320 x 240 pixels (NORMAL mode) 640 x 480 pixels (FINE mode) Approx. 240 images (NORMAL mode) Approx. 60 images (FINE mode)	-	○
	AC Adaptor: 18 W 1 W (when not in use.)			Image Format	JPEG (Design Rule for Camera File System)	-	○
Video Signal	EIA Standard (525 lines, 60 fields) NTSC color signal	○	○	Operating Condition	0 °C-40 °C (32 °F-104 °F) (Temperature) 10 %-75 % (Humidity)	○	○
	2 rotary heads, helical scanning system			Weight	Palmcorder: 0.67 kg (1.47 lbs.) 0.66 kg (1.45 lbs.) AC Adaptor: 0.16 kg (0.35 lbs.)	○	○
Video Recording System	One integral color filter Charge Coupled Device (CCD)	○	○	Dimensions	Palmcorder: 85 mm x 107.5 mm x 191 mm (W x H x D) (3-3/8 inch x 4-1/4 inch x 7-1/2 inch) 85 mm x 107.5 mm x 166 mm (W x H x D) (3-3/8 inch x 4-1/4 inch x 6-1/2 inch) AC Adaptor: 70 mm x 45 mm x 115 mm (W x H x D) (2-3/4 inch x 1-3/4 inch x 4-1/2 inch)	○	-
	20:1 zoom lens, F1:1.6 with auto iris control Focal length: 3.6 mm-72 mm Power zoom function Lens filter diameter: 43 mm					-	○
Digital Interface	RS-232C serial port (D-Sub 9-pin)/i.Link (IEEE1394) USB/i.Link (IEEE1394)	○	-			○	○
Viewfinder	10.2 mm (0.4 inch) Electronic Viewfinder 12.7 mm (0.44 inch) Liquid Crystal Electronic Viewfinder	○	-			-	○

1. PV-DV101
2. PV-DV401

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

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Panasonic®

1. SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ▲ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and

Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1 M\ \Omega$ and $5.2 M\ \Omega$. When the exposed metal does not have a return path to the chassis, the reading must be infinity.

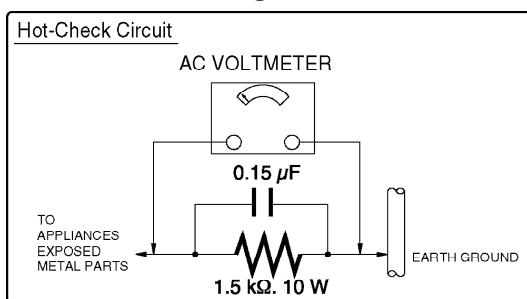
LEAKAGE CURRENT HOT CHECK

(See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5 k\ \Omega$, $10 W$ resistor, in parallel with a $0.15\ \mu F$ capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.

3. Use an AC voltmeter, with $1 \text{ k}\Omega/\text{V}$ or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 V RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

Figure. 1



2. PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum

foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION :
Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD)sufficient to damage an ES device).

3. X-RADIATION

(For model with Monochrome EVF)

WARNING :

1. The potential source of X-Radiation in EVF sets is the High Voltage section and the picture tube.
2. When using a picture tube test jig for service, ensure that jig is capable of handling 10 kV without causing X-Radiation.

NOTE :

It is important to use an accurate periodically calibrated high voltage meter.

3. Measure the High Voltage. The meter (electrostatic type) reading should indicate $2.2 \text{ kV} \pm 0.1 \text{ kV}$. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

4. OPERATION GUIDE

5. SERVICE NOTES (PLEASE READ)

5.1. SERVICE NOTES

5.1.1. EXTENSION CABLES FOR SERVICE POSITION

Using the following Extension Cables, place the unit as shown for check and service.

Extension Cables (No.5 ~ No.8) are used for improving serviceability. (They are not necessarily used.)

NO.	PART NUMBER	PART NAME	CONNECTION
①	VFKW0124A	14Pin Extension Cable	FP301 on Main C.B.A. ~ CCD F.P.C. on Lens Unit
②	VUVS0012	22Pin Extension Cable	FP701 on Main C.B.A. ~ Lens F.P.C. on Lens Unit
③	LSUA0019	8Pin Extension Cable	FP1 on Main C.B.A. ~ Mechanism Sensor F.P.C. on Mechanism Chassis Ass'y
④	LSUA0033	40Pin Extension Cable	FP7 on Main C.B.A. ~ LCD F.P.C.
⑤	LSUA0017	18Pin Extension Cable	FP4 on Main C.B.A. ~ Capstan F.P.C. on Mechanism Chassis Ass'y
⑥	LSUA0016	10Pin Extension Cable	FP3 on Main C.B.A. ~ Cylinder F.P.C. on Mechanism Chassis Ass'y
⑦	VUVS0007	12Pin Extension Cable	FP5 on Main C.B.A. ~ Head Amp F.P.C. on Mechanism Chassis Ass'y
⑧	LSUA0020	20Pin Extension Cable	FP2 on Main C.B.A. ~ Mechanism F.P.C. on Mechanism Chassis Ass'y

Note :

1. The LCD open/close SW. is for changing between LCD Display or EVF Display. When turning on LCD Display, place some paper or tape, etc. on LCD open/close SW. so that this SW. stays ON.

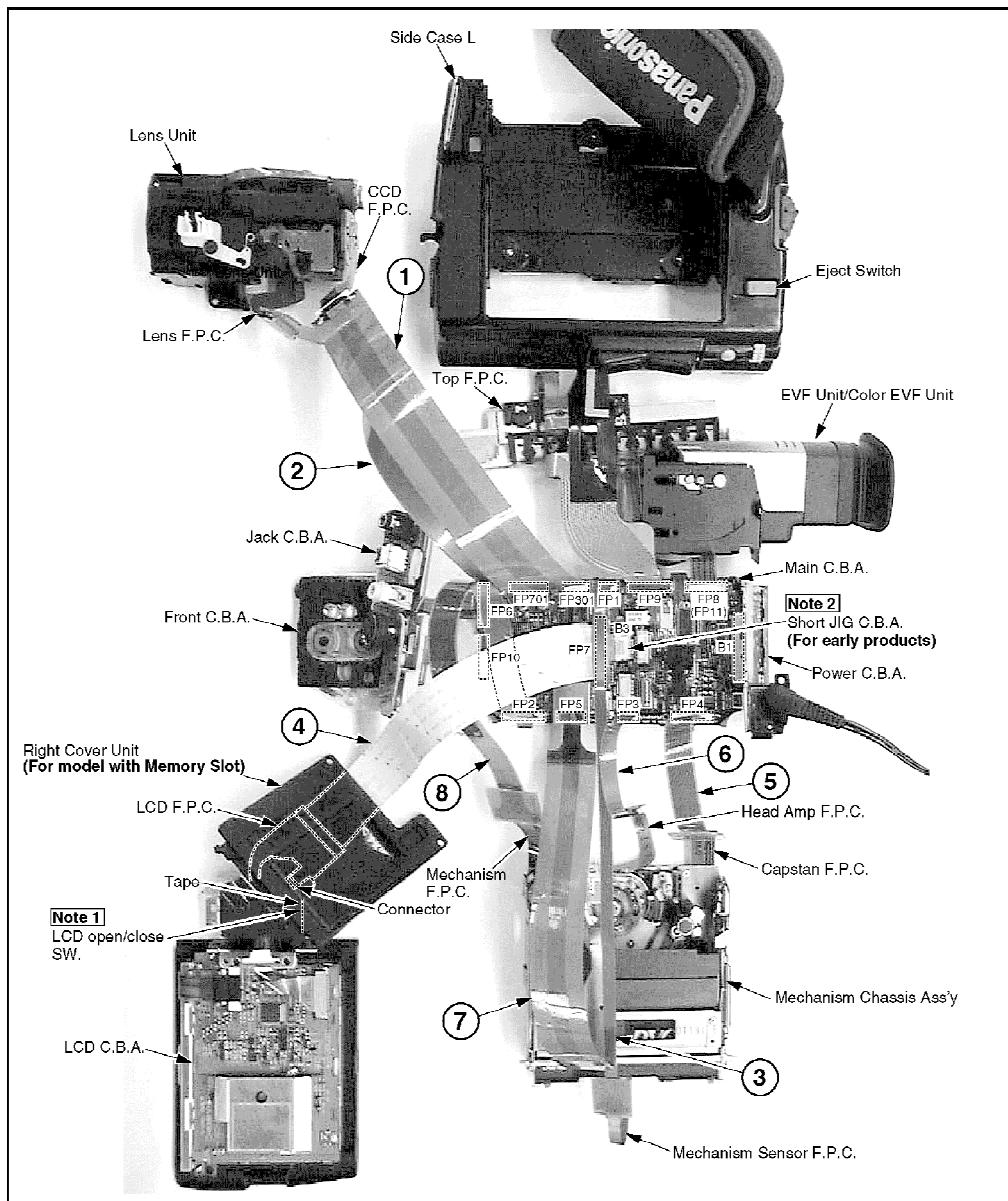
2. (For early products)

Be sure to attach the Short JIG C.B.A. on Connector B3. Refer to "**SHORT JIG C.B.A.**"

3. Use a grounded ESD wrist strap while disassembling the Lens portion.

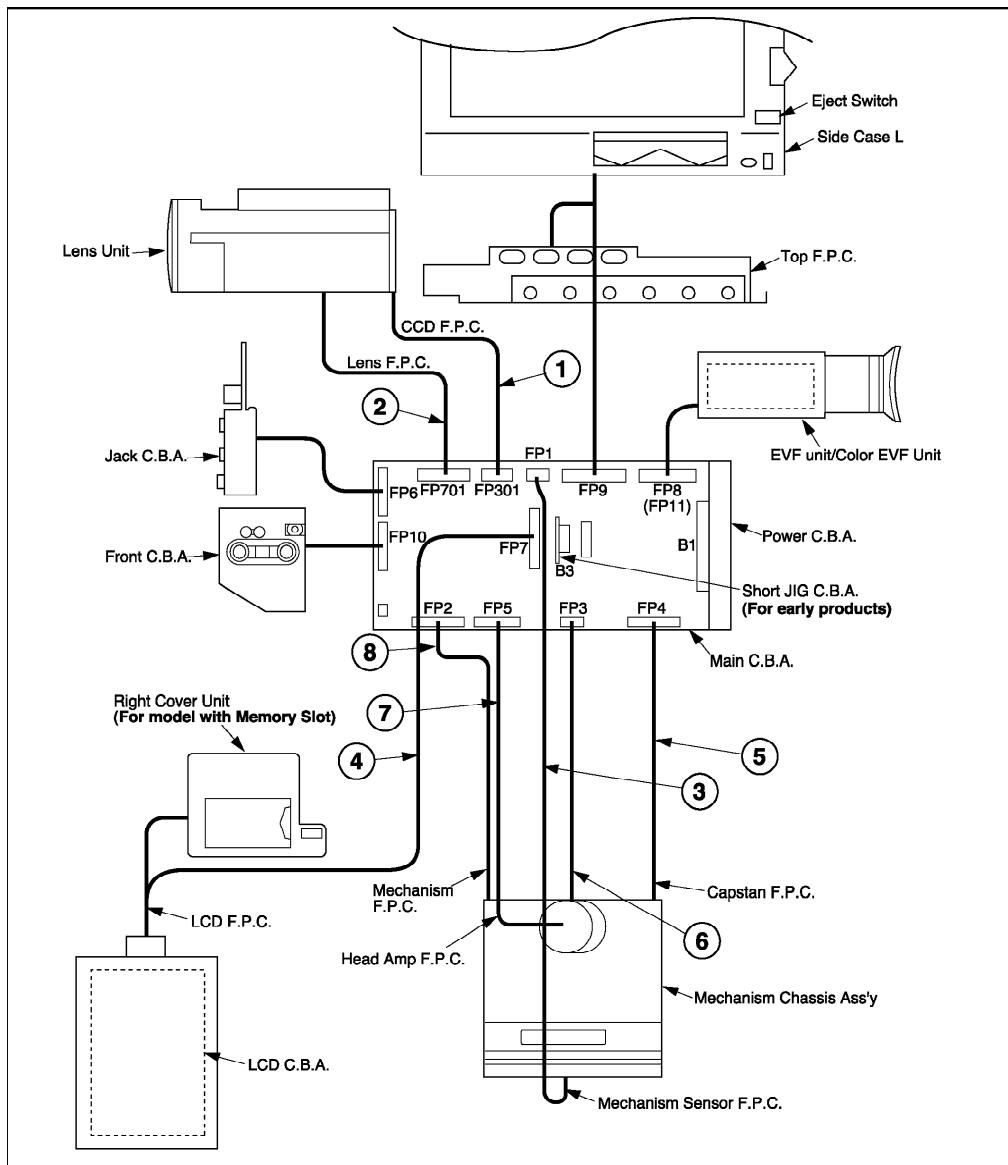
4. Use extreme care when unplugging or plugging in connectors.

Fig. 1-1



5.1.2. INTERCONNECTION OF EXTENSION CABLES

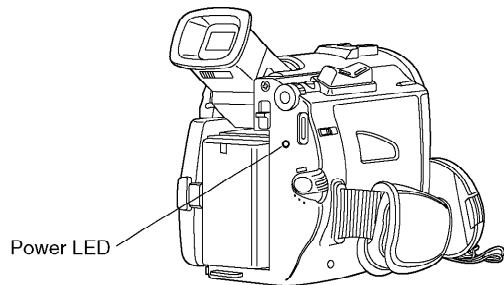
Fig. 1-2

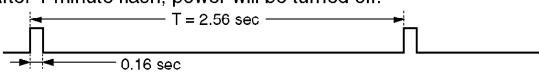
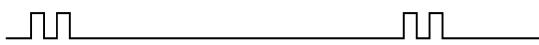
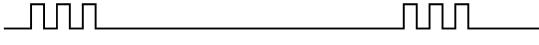
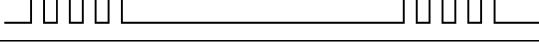
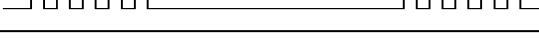


5.1.3. SIMPLIFIED FAULT FINDING DATA (SELF-DIAGNOSTIC SYSTEM)

When following conditions occur, the Power LED will flash according to the condition.

Fig. 2-1



CONDITION	POWER LED FLASHING TIMING & POWER OFF TIMING
T-Reel Lock	After 1 minute flash, power will be turned off. 
S-Reel Lock	After 1 minute flash, power will be turned off. 
Unloading Lock	After 1 minute flash, power will be turned off. 
Loading Lock	After 1 minute flash, power will be turned off. 
Cylinder Lock	After 1 minute flash, power will be turned off. 
Focus Motor Lock	Power LED flashes at 1 Hz timing.
Zoom Motor Lock	Power LED flashes at 1 Hz timing.
Dew Detection	After 18 seconds flash at 1 Hz timing, power will be turned off.

If any of the following numbers appear on-screen, the palmcorder may need service. Do not remove the battery (if attached) and write down the displayed number.

Fig. 2-2

Error No.	Error Description
U11	Card Error
U12	Card Error
U13	Card Error
U14	Card/Palmcorder Dialogue Error
U15	No Card Memory
U16	Captured image limit exceeded
U17	Captured image limit exceeded
U30	Error other than above

Note:

While battery remains, the Error No. will be displayed again when the power is switched off and on again. (Once the Battery is

removed or dead, Error No. will not remain in the memory.)

5.1.4. SHORT JIG C.B.A.

(For early products)

Purpose of the Short JIG C.B.A.

In order to prevent the breaking of the Flash ROM due to ESD

(Electro Static Discharge), the Short JIG C.B.A. is installed to the connector B3 on the Main C.B.A.

For early products, the Flash ROM has been used for DSC microcontroller (IC401) and System Control microcontroller (IC6001).

When the Flash ROM is used for either or both microcontroller(s), be sure to attach the Short JIG C.B.A. to the connector B3 on the Main C.B.A. (Otherwise, the comcorder can not be turned on.)

For distinction, check whether the connector B3 is used on the Main C.B.A. or not.

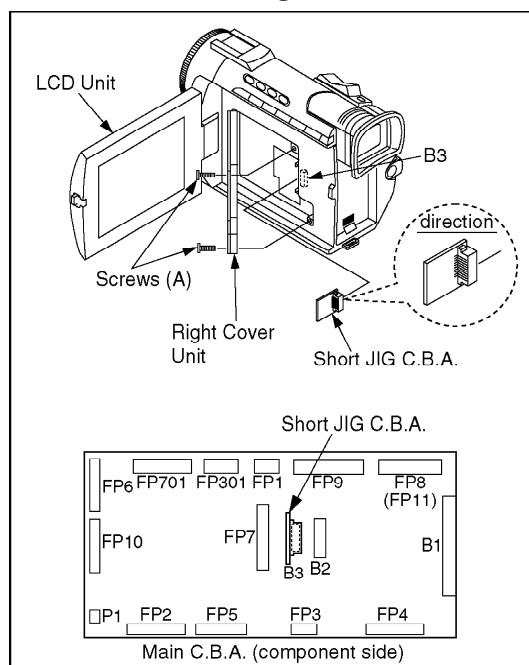
When the B3 connector is on the Main C.B.A., the Flash ROM is used for either or both IC401 and /or IC6001.

1. Open the LCD Unit.

2. Remove 2 Screws (A). Then open the Right Cover Unit.

3. Install the Short JIG C.B.A. to the Connector B3.

Fig. 3



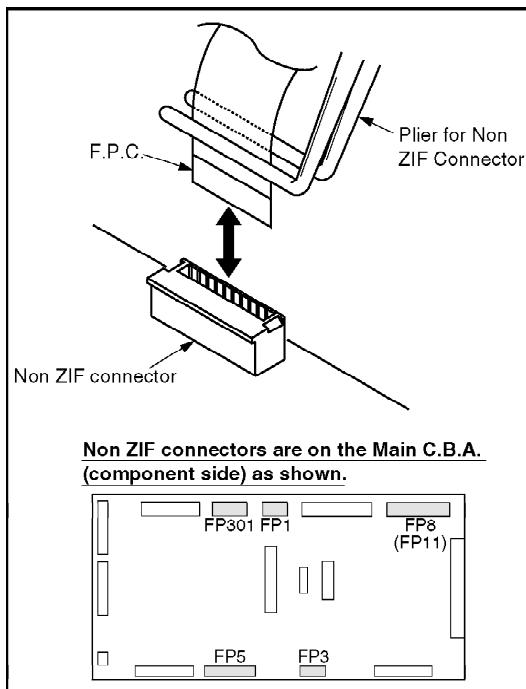
5.1.5. REMOVAL/INSTALLATION OF F.P.C. FROM NON ZIF (Zero Insertion Force) CONNECTOR

Removal/Installation of F.P.C. from the Non ZIF (Zero Insertion Force) connector:

- 1. To remove the F.P.C. from the Non ZIF connector, use the Plier for Non ZIF Connector (LSVQ0028) to pull out the F.P.C. as shown. The same Plier for Non ZIF Connector (LSVQ0028) should also be**

used to install the F.P.C. to the Non ZIF Connector.

Fig. 4



5.1.6. METHOD FOR LOADING/UNLOADING OF MECHANISM

CAUTION:

If loading does not start after DC Power Supply is applied, DO NOT continue to applying DC Power Supply.

Apply +3 VDC Power Supply to the Loading Motor terminals.

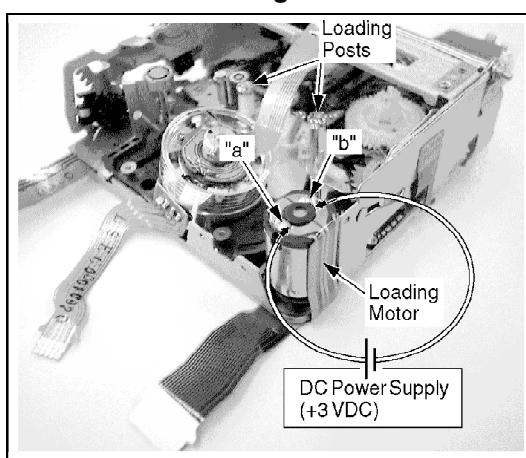
Loading:

DC - to Portion "a," DC+ to Portion "b"

Unloading:

DC+ to Portion "a," DC - to Portion "b"

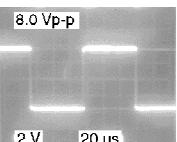
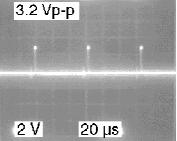
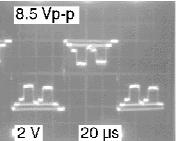
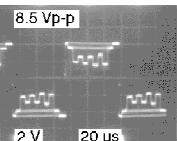
Fig. 5

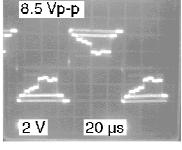
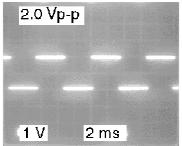
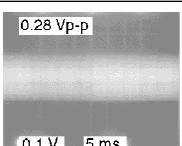
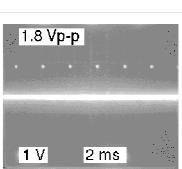
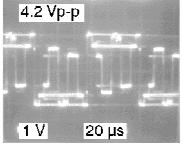
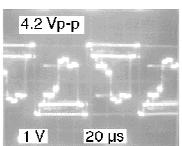


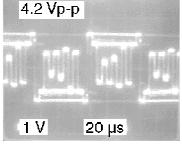
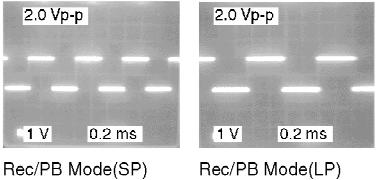
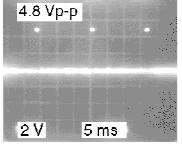
5.1.7. SIGNAL DESCRIPTION ON INTERFACE BOARD FOR ELECTRICAL

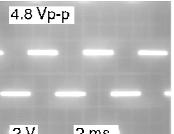
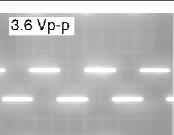
ADJUSTMENT (LSUP0007)

A signal check can be performed using the Interface Board.

Pin No.	Signal Name	Description	Waveforms
TP101	EEPROM DAT	Not used	-----
TP102	EEPROM CLK	Not used	-----
TP103	EEPROM VDD	Not used	-----
TP104	----	Not used	-----
TP105	EVF CR	Not used	-----
TP106	EVF CB	Not used	-----
TP107	MON PLL	Not used	-----
TP108	MON VCOM	To monitor V-COM signal at Pin 19 of IC8001 on LCD C.B.A.	 8.0 Vp-p 2 V 20 μs
TP109	V850 VDD	Not used	-----
TP110	V850 VPP	Not used	-----
TP111	V850 SBO	Not used	-----
TP112	V850 SBI	Not used	-----
TP113	V850 SCK	Not used	-----
TP114	M103 MMOD0	Not used	-----
TP115	M103 MMOD1	Not used	-----
TP116	M103 VPP	Not used	-----
TP117	M103 EXMOD1	Not used	-----
TP118	EVF HD	To monitor HD signal at Pin 26 of IC901 on Color EVF C.B.A.	 3.2 Vp-p 2 V 20 μs
TP119	EVF R	To monitor Color EVF red signal at Pin 18 of IC901 on Color EVF C.B.A.	 8.5 Vp-p 2 V 20 μs
TP120	EVF B	To monitor Color EVF blue signal at Pin 16 of IC901 on Color EVF C.B.A.	 8.5 Vp-p 2 V 20 μs

Pin No.	SignalName	Description	Waveforms
TP121	EVF G	To monitor EVF green signal at Pin 14 of IC901 on Color EVF C.B.A.	 8.5 Vp-p 2 V 20 μs Camera Mode
TP122	HID	To monitor HID signal at Pin 36 of IC3201 on Main C.B.A.	 2.0 Vp-p 1 V 2 ms Rec/PB Mode
TP123	ENVELOPE	To monitor Envelope signal at Pin 41 of IC5001 on Main C.B.A.	 0.28 Vp-p 0.1 V 5 ms PB Mode
TP124	SPA	To monitor SPA signal at Pin 35 of IC3201 on Main C.B.A.	 1.8 Vp-p 1 V 2 ms PB Mode
TP125	ATFI	Not used	-----
TP126	M103 REG3	Not used	-----
TP127	DGND	Not used	-----
TP128	EEPROM CS	Grounding terminal	-----
TP129	CAMF VDD	Not used	-----
TP130	CAMF VPP	Not used	-----
TP131	MON R	To monitor LCD red signal at Pin 8 of IC8001 on LCD C.B.A.	 4.2 Vp-p 1 V 20 μs Camera Mode
TP132	MON B	To monitor LCD blue signal at Pin 4 of IC8001 on LCD C.B.A.	 4.2 Vp-p 1 V 20 μs Camera Mode

Pin No.	SignalName	Description	Waveforms
TP133	MON G	To monitor LCD green signal at Pin 6 of IC8001 on LCD C.B.A.	
TP134	CAM AGND	Grounding terminal	-----
TP135	(CAP FG)	To monitor capstan FG signal at Pin 24 of IC2001 on Main C.B.A.	
TP136	AGC OUT	Not used	-----
TP137	M103 PON	Not used	-----
TP138	AD IN	Not used	-----
TP139	AD IN2	Not used	-----
TP140	AGCOUT2	Not used	-----
TP141	SBO	EVR serial data output from camcorder to PC	-----
TP142	UARTI	To monitor RS-232C received data	-----
TP143	RF GND	Not used	-----
TP144	TCK	Not used	-----
TP145	TMS	Not used	-----
TP146	TDO	Not used	-----
TP147	TDI	Not used	-----
TP148	MIC CLK	MIC serial clock output from camcorder to PC	-----
TP149	MIC DATA	MIC serial data output from camcorder to PC	-----
TP150	SBI	EVR serial data output from PC to camcorder	-----
TP151	UARTO	To monitor RS-232C transmitted data	-----
TP152	RECI	Not used	-----
TP153	SIO	To monitor EVR serial data	-----
TP154	SCK	To monitor EVR serial clock	-----
TP155	VD	To monitor camera VD signal at Pin 3 of IC304 on Main C.B.A.	

Pin No.	SignalName	Description	Waveforms
TP156	UNREG	Power input terminal	-----
TP157	UNREG GND	Grounding terminal	-----
TP158	VTR RESET	Power microcontroller reset: low	-----
TP159	CAM RESET	Not used	-----
TP160	VTR RESET	Not used	-----
TP161	(HID2)	To monitor HID signal at Pin 36 of IC3201 on Main C.B.A.	 4.8 Vp-p 2 V 2 ms Rec/PB Mode
TP162	(HID1)	To monitor inverted HID signal at Pin 36 of IC3201 on Main C.B.A.	 3.6 Vp-p 2 V 2 ms Rec/PB Mode

5.1.8. HOW TO REMOVE A JAMMED TAPE

5.1.8.1. Electrical Method

CAUTION:

If loading does not start after DC Power Supply is applied, DO NOT continue to applying DC Power Supply. In this case, perform in Manual Method.

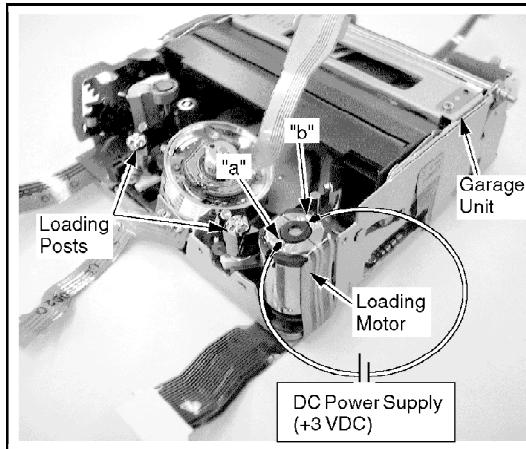
Remove a jammed tape as follows:

1. Remove the Cabinet Parts. Refer to "**CABINET SECTION**" in DISASSEMBLY/ASSEMBLY PROCEDURES.
2. Apply +3 V DC Power Supply to the Loading Motor terminals.
3. When the Loading Posts reach the fully unloaded position, remove the Power Supply immediately.

Note:

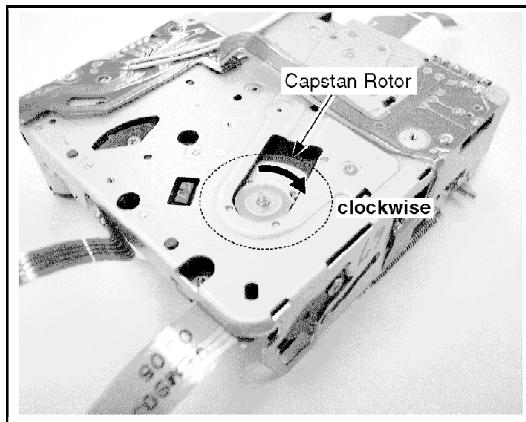
DO NOT let eject the Garage Unit. If the Garage Unit is in the up position, the DV Cassette Tape may be damaged.

Fig. 6-1



- 4. Rewind the tape into the DV Cassette Tape by turning the Capstan Rotor clockwise.**

Fig. 6-2



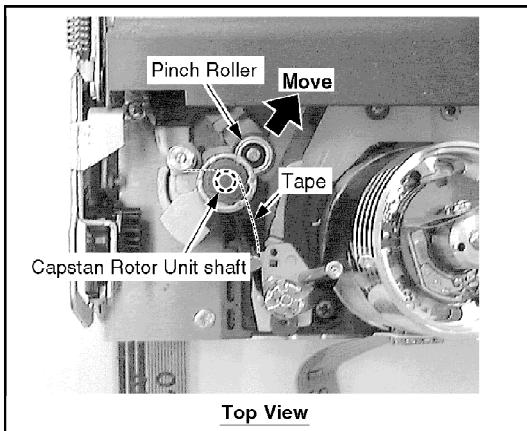
- 5. Eject the DV Cassette Tape by applying +3 VDC Power Supply again.**

- 6. Take out the DV Cassette Tape from the Garage Unit.**

5.1.8.2. Manual Method

- 1. Remove the Cabinet Parts. Refer to "CABINET SECTION" in DISASSEMBLY/ASSEMBLY PROCEDURES.**
- 2. Move the Pinch Roller Unit out so that the Pinch Roller is separated from the Capstan Rotor Unit shaft. Then, remove the tape from the tape path and all posts.**

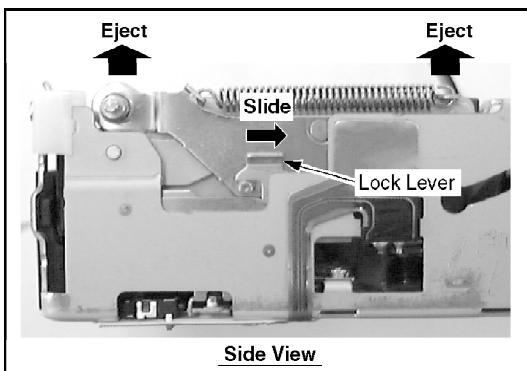
Fig. 6-3



3. Rewind the tape into the DV Cassette Tape by turning the Capstan Rotor clockwise.

4. Eject the DV Cassette Tape by sliding the Lock Lever.

Fig. 6-4



5. Take out the DV Cassette Tape from the Garage Unit.

5.1.9. EEPROM DATA

CAUTION:

Be sure to save the EEPROM data using PC-EVR Adjustment Program before service and adjustment in order to make sure to avoid an accidental data loss, etc. as follows.

EEPROM IC	
C.B.A.	EEPROM IC Ref. No.
Main C.B.A.	IC6007

1. How to save the EEPROM data to your PC

1. Start up the PC-EVR Adjustment Program.
2. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.
3. Select "5. Save all EEPROM data." in Read (Save)/Write All

EEPROM data menu, and then press "Enter" key.

4. Input the file name, and then press the "Enter" key. The data of EEPROM IC will be stored to your PC.

2.How to write the EEPROM data which was stored in your PC to EEPROM IC

1. Start up the PC-EVR Adjustment Program.
2. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.
3. Select "6. Writing from stored data files." in Read (Save)/Write All EEPROM data menu, and then press "Enter" key.
4. Input the saved file name, and then press "Enter" key. The data of EEPROM IC will be written in EEPROM IC.

3.How to initialize the EEPROM IC

When the Main C.B.A. is replaced, be sure to write the initial data to EEPROM IC. And adjust the camcorder.

1. Start up the PC-EVR Adjustment Program.
2. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.
3. Select "6. Writing from stored data files." in Read (Save)/Write All EEPROM data menu, and then press "Enter" key.
4. Input the saved file name, and then press "Enter" key. The data of EEPROM IC will be written in EEPROM IC.
OR;
Select "7. Writing of Initial data." and then press "Enter" key. And press "Enter" key once again.

4.How to input ID Number

The ID number is in the EEPROM.

There are two ways to write the data of EEPROM IC after replacing Main C.B.A. as follows:

- Selecting "6. Writing from stored data files," ID Number with stored data file will be written automatically.
- Selecting "7. Writing of initial data," ID Number needs to be input.
There are two methods, "a" or "b," to input ID Number as follows.

a When writing ID Number from the saved data:

1. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.

2. Input the saved file name, and then press "Enter" key. ID Number will be written automatically.

b When the original ID information can not be read because of destruction of EEPROM etc.:

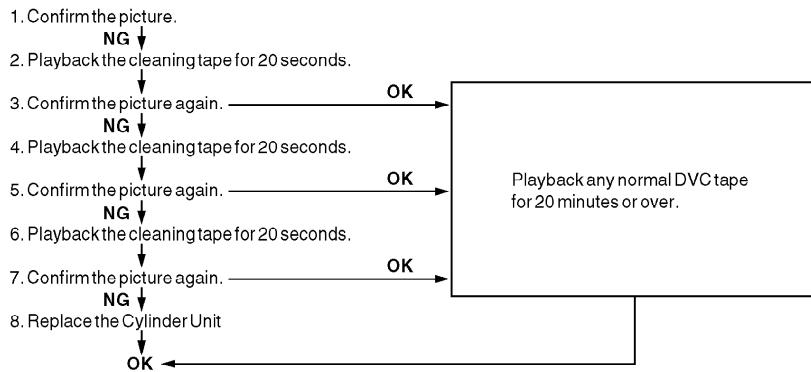
- 1. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.**
- 2. Select "8. Write ID from stored file." and then press "Enter" key. ID Number will be written automatically.**

5.1.10. HOW TO USE THE DVC HEAD CLEANING TAPE/ VFK1451

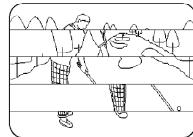
Please use the cleaning tape as described below.

Fig. 7

Note: This cleaning tape has a total playback time of 45 minutes. Once used, it is not reusable.



The picture will look like this in case of clogged video head.

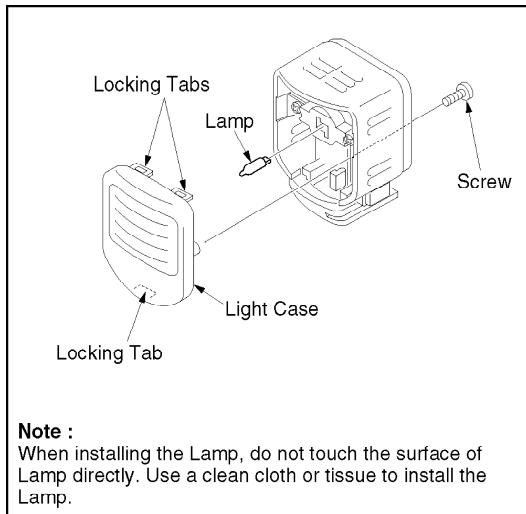


5.1.11. HOW TO REPLACE THE LAMP (VLLW0023) OF ENHANCEMENT LIGHT UNIT

DANGER:

To prevent possible burn hazard, disconnect this unit and allow lamp to cool before replacing. Replace only with VLLW0023 lamp, to reduce the risk of fire.

Fig. 8



5.1.12. REPLACEMENT PROCEDURES FOR CSP (CHIP SIZE PACKAGE) IC

5.1.12.1. EQUIPMENT

- 1. Pre-Heater**
- 2. Spot Heater**
- 3. Vacuum Pick-up**
- 4. P.C.B. Holder**

Fig. 9-1

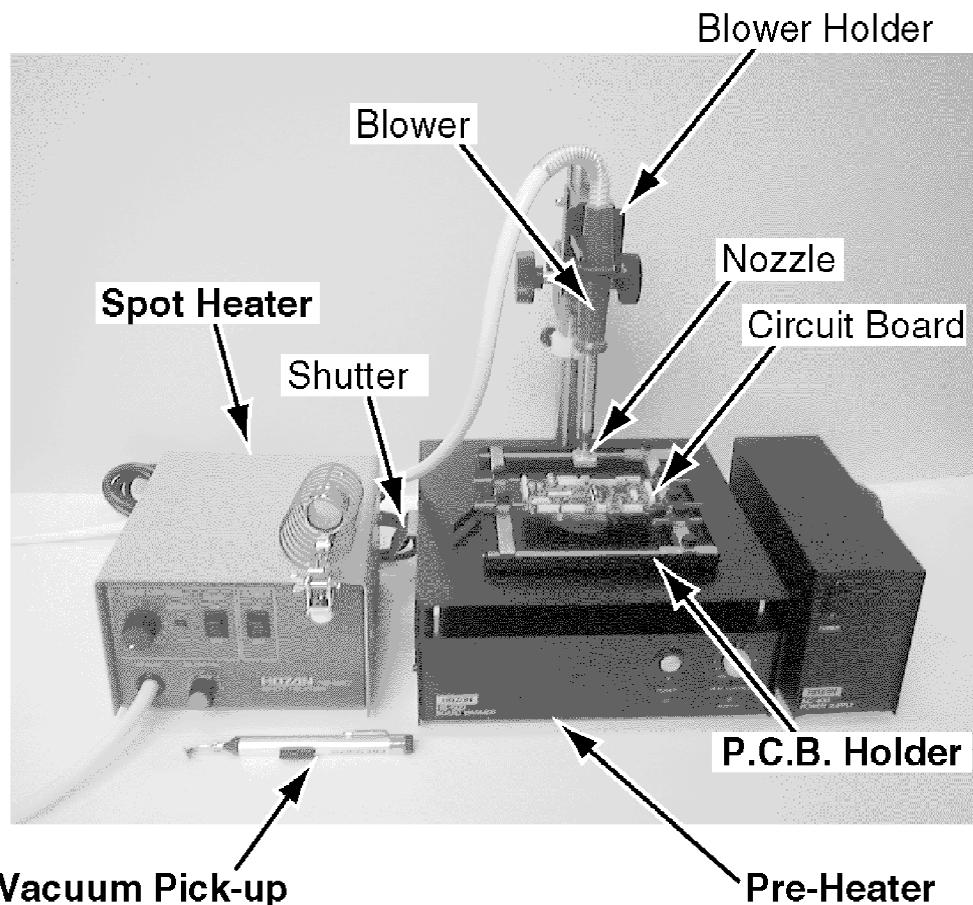
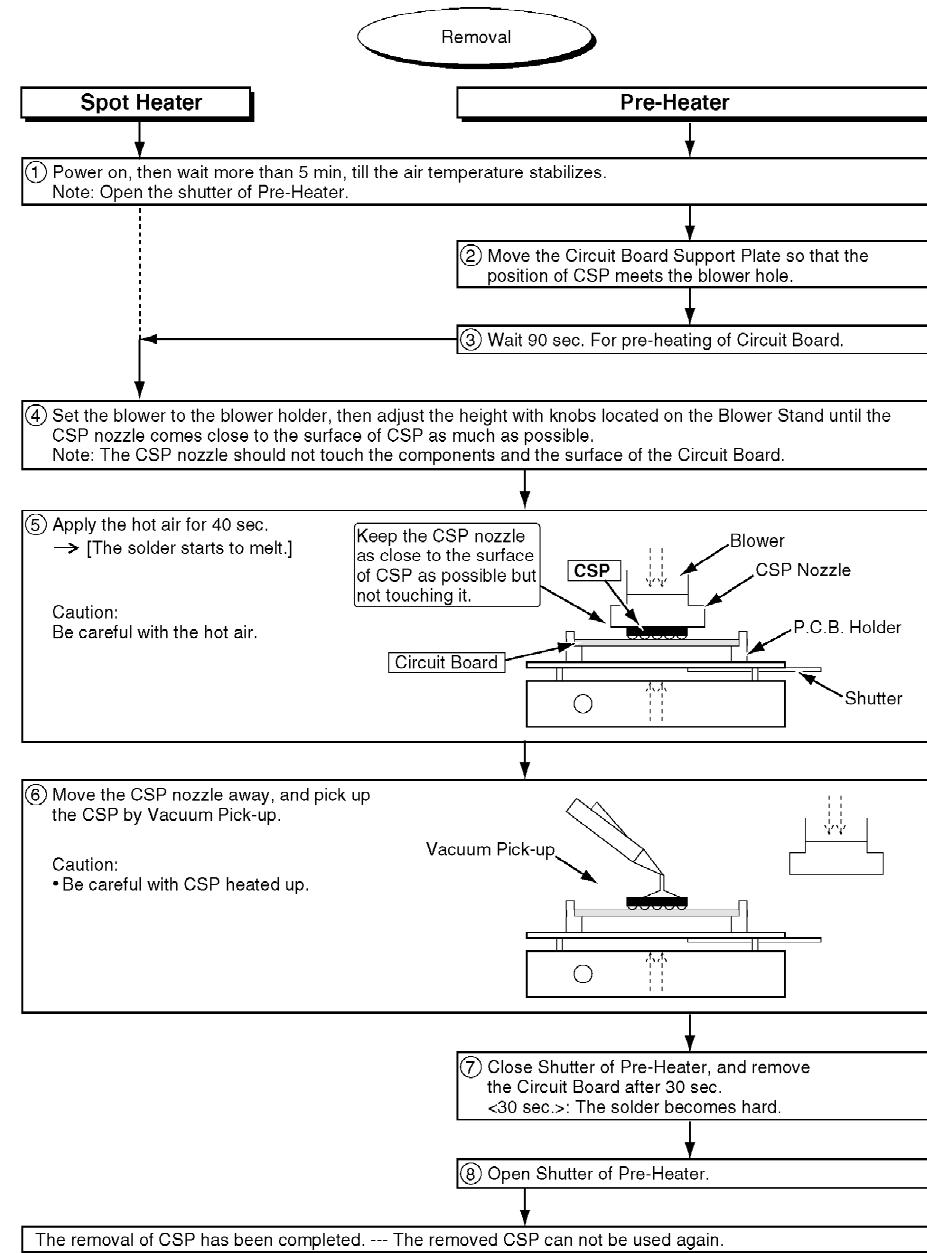


Fig. 9-2

Fixture	Preparation for Fixture	Condition		Warming-up
		Heat Control Level	Air Control Level	
Spot Heater	Set a Nozzle to Blower of Spot Heater.	Level 8.5 (245 °C)	MAX	
Pre-Heater	Set the Blower to Blower Holder.	MAX (120 °C~150 °C)	---	<p>After setting fixtures, turn on the power. Then, wait for approx. 5 minutes to stabilize air condition.</p> <p>Note: Be sure to open the shutter of Pre-Heater.</p>
Reference for Temperature				

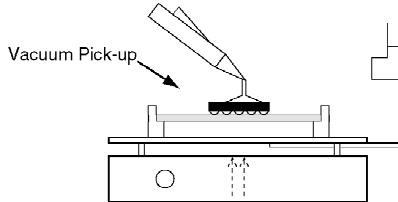
5.1.12.2. REMOVAL OF CSP IC

Fig. 9-3



⑥ Move the CSP nozzle away, and pick up the CSP by Vacuum Pick-up.

Caution:
• Be careful with CSP heated up.



⑦ Close Shutter of Pre-Heater, and remove the Circuit Board after 30 sec.
<30 sec.: The solder becomes hard.

⑧ Open Shutter of Pre-Heater.

The removal of CSP has been completed. --- The removed CSP can not be used again.

5.1.12.3. INSTALLATION OF CSP IC

Fig. 9-4

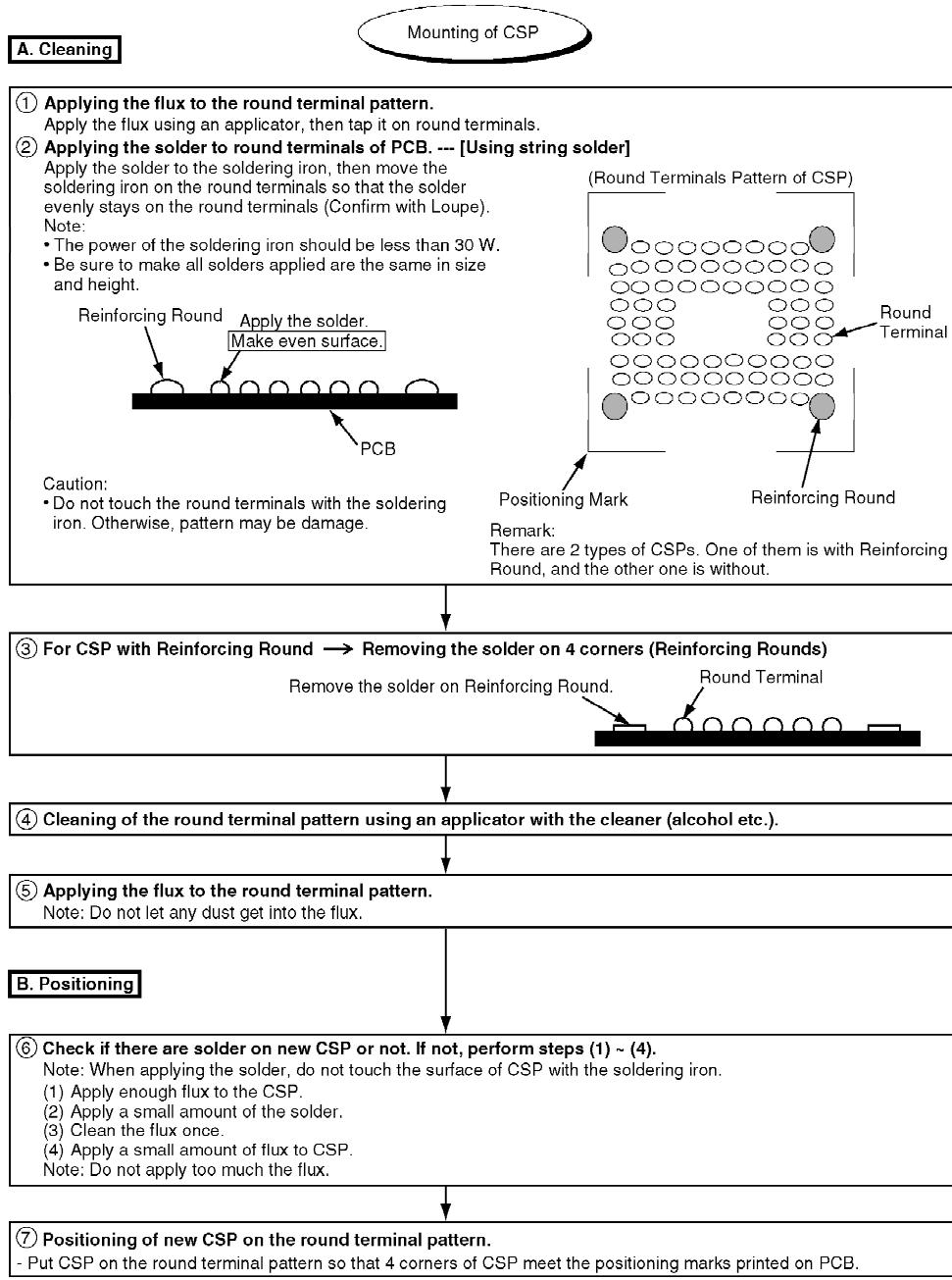
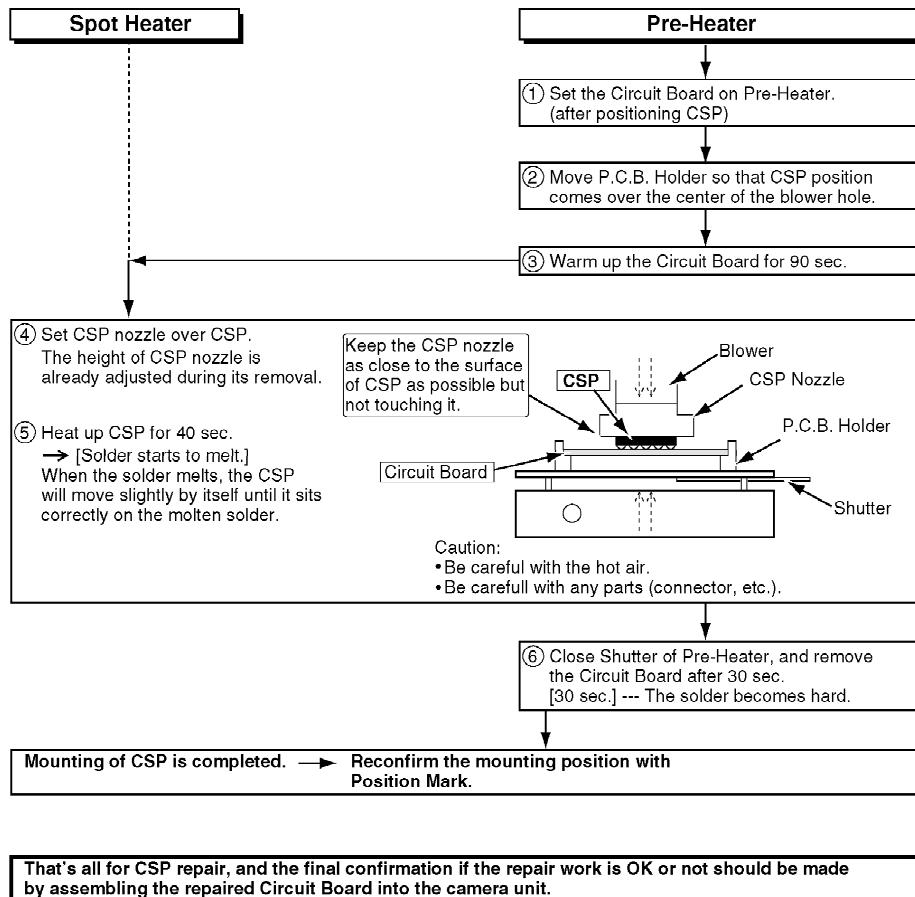


Fig. 9-5

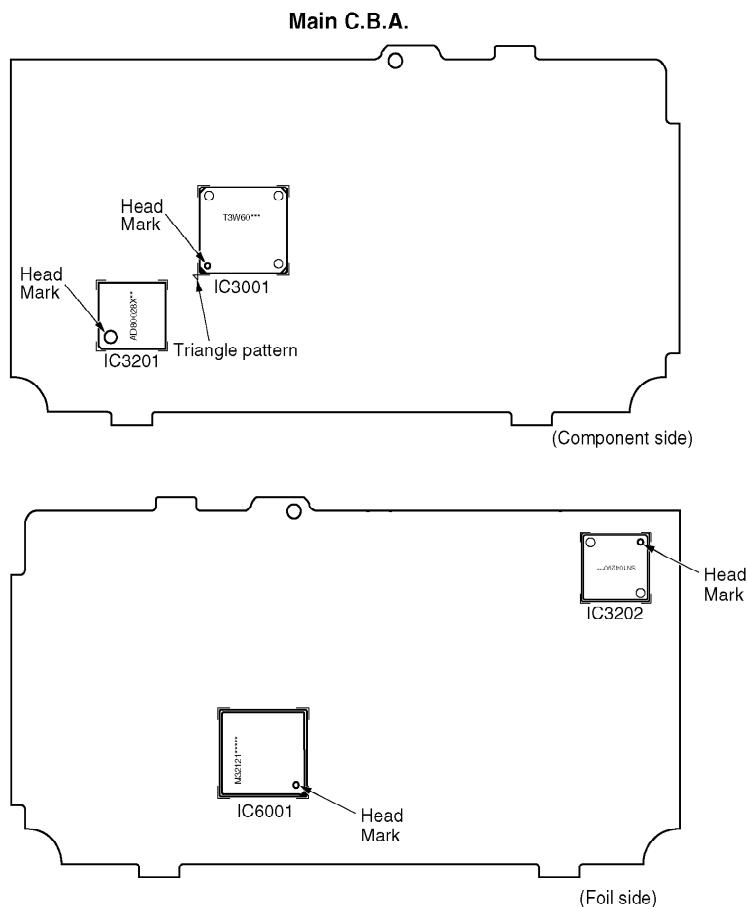
C. Mounting



5.1.12.4. CSP IC LOCATION

Fig. 9-6

Make sure to install CSP IC in the correct position on the Main C.B.A. as shown.



5.1.13. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handlings techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

5.1.14. REPLACEMENT PROCEDURE FOR LEADLESS (CHIP) COMPONENT

The following procedures are recommended for the replacement of the leadless components used in this Unit.

1. Preparation for replacement

A. Soldering Iron

Use a pencil-type soldering iron using less than 30 watts.

B. Solder

Eutectic Solder (Tin 63%, Lead 37%) is recommended.

C. Soldering time

Do not apply heat for more than 4 seconds.

D. Preheating

Leadless capacitor must be preheated before installation.
(130°C ~ 150°C, for about 2 minutes.)

Note:

- A. Leadless component must not be reused after removal.
- B. Excessive mechanical stress and rubbing of the component electrode must be avoided.

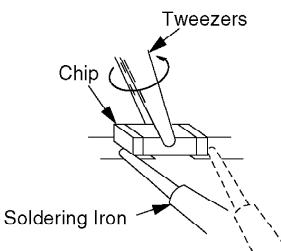
2. Removing the leadless component

Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes is melted, remove leadless component with a twisting motion.

Note:

- A. Do not attempt to lift the component off the board until the component is completely disconnected from the board by a twisting action. The leadless component is attached to the PCB with glue. So carefully twist the component when removing it so as not to break or damage any fail under the component.
- B. Take care not to break the copper foil on the printed board.

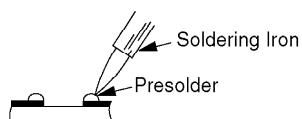
Fig. 10-1



3. Installation of the leadless component

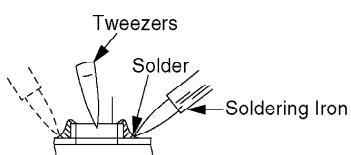
A. Presolder the contact points of the circuit board.

Fig. 10-2



B. Press the part downward with tweezers and solder both electrodes as shown below.

Fig. 10-3



Note:

Do not glue the replacement leadless component to the circuit board.

5.1.15. IC6001 REPLACEMENT NOTE

Three types of IC6001 (M32121FCAWG, M32121MCA100, or M32121MCA101) are used on a running change basis. When replacing IC6001, as in cases like the following, it is necessary to replace the resistor at the same time. Otherwise, IC6001 may have a short life.

Be sure to confirm the part numbers of both the original IC6001 and the new one supplied as shown:

Case1:

When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA101), be sure to remove resistor (Ref No. R6027). Then, install it to R6076.

Case2:

When replacing IC6001 (M32121MCA100) with IC6001 (M32121FCAWG), be sure to remove resistor (Ref No. R6076). Then, install it to R6027.

Fig. 11-1

Types of IC6001

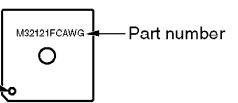
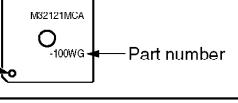
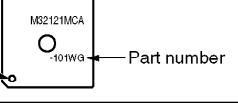
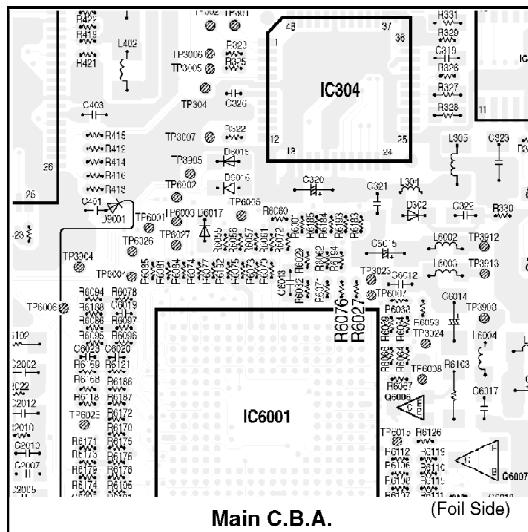
M32121FCAWG	
M32121MCA100	
M32121MCA101	

Fig. 11-2



Two types of IC401 (MN1030F01K or MN103001GDA) are used on a running change basis. When replacing IC401, as in cases like the following, it is necessary to replace the resistor at the same time. Otherwise, IC401 may have a short life.

Be sure to confirm the part numbers of both the original IC401 and the new one supplied as shown:

- When replacing IC401 (MN1030F01K) with IC401 (MN103001GDA),
be sure to remove resistor (Ref No. R427). Then, install it to R426.

Fig. 12-1

Types of IC401

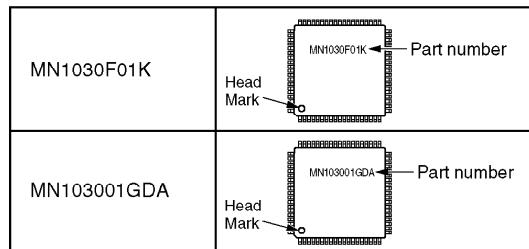
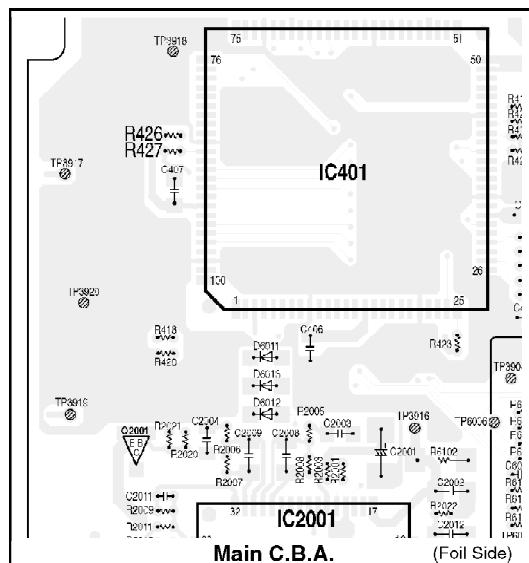
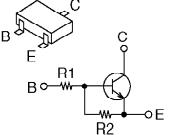
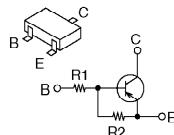
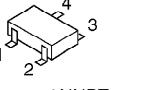
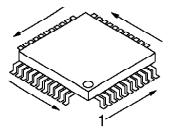
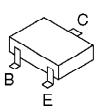
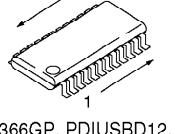
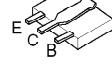
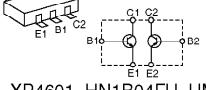
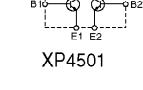
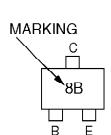
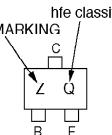
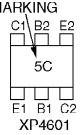


Fig. 12-2



GENERAL C.B.A. / ASS'Y PARTS		MAIN C.B.A.																																						
		 S80828ANNPT2	 XC62FP2902MR																																					
UN5212(R1=22K, R2=22K), UN5213(R1=47K, R2=47K), UN9212J(R1=22K, R2=22K), UN9213J(R1=47K, R2=47K), DTC144EU(R1=47K, R2=47K), DTC124EE(R1=22K, R2=22K), DTC124EU(R1=22K, R2=22K), DTC144EE(R1=47K, R2=47K),	UN5114(R1=10K, R2=47K), UN9111J(R1=10K, R2=10K), UN9115J(R1=10K, R2=OPEN), DTA114YU(R1=10K, R2=47K), DTA114EE(R1=10K, R2=10K), DTA114TE(R1=10K, R2=OPEN)	 S817A33ANBT2	 AD80028XBC																																					
 M37540M4-060, MN52A2, MN10301GDA, AN2903FJQ, AN3732FJM, AD9843AJST, LB11954W-MPB, BA9737KV, AN2540FHQ	 2SD2351, 2SA1576A106R, 2SC2412K146R, 2SB1462J, 2SB1585, 2SB1218A, 2SB970, CPI3115, CPI3106, CPI3206, 2SC4081T106R, 2SD2150T100R, 2SD601A, 2SD1820A, 2SA2010, 2SA2046, 2SA1774, 2SD2216J, 2SC4617, 2SD1819A, 2SC5592	 SN104290GGM	 T3W60XBA																																					
 M62366GP, PDIUSBD12, AK4563VF-E1, ADM3202ARU, BA10324AFVE1, LB1837MLTEL3, MN31121SAE1, BR9016RFV-E2, NJM12904VTE1, NJM12903VTE1, XC74UHU04WM, AN2515NS, S3514AEFSTB	 2SD968A, 2SA2011, 2SD1119	 M32121MCA101																																						
LCD C.B.A.		POWER C.B.A.																																						
		 XP4601, HN1B04FU, UMZ1N	 NJM2380AFTE1																																					
		 XP4501	 CPH6702, XN09D6100L																																					
HOW TO READ THE IDENTIFICATION MARK OF CHIP COMPONENTS.																																								
<table border="1"> <thead> <tr> <th>MARKING</th><th>PART NO.</th><th>MARKING</th><th>PART NO.</th></tr> </thead> <tbody> <tr> <td>AS</td><td>2SA2010</td><td>1R</td><td>2SB970</td></tr> <tr> <td>B</td><td>2SB1218A</td><td>2T</td><td>2SC5592</td></tr> <tr> <td>B</td><td>2SC4081T106R</td><td>5H</td><td>XP4501</td></tr> <tr> <td>C</td><td>DTA144EU</td><td>5C</td><td>XP4601</td></tr> <tr> <td>T</td><td>2SD1119</td><td>8B</td><td>UN5212</td></tr> <tr> <td>Z1</td><td>UMZ1N</td><td>8C</td><td>UN5213</td></tr> <tr> <td>Z</td><td>2SD601A</td><td>6D</td><td>UN5114</td></tr> <tr> <td>Z</td><td>2SD1819A</td><td>1B</td><td>MA111</td></tr> <tr> <td>1R</td><td>2SB1585</td><td>MC</td><td>MA143</td></tr> </tbody> </table>	MARKING	PART NO.	MARKING	PART NO.	AS	2SA2010	1R	2SB970	B	2SB1218A	2T	2SC5592	B	2SC4081T106R	5H	XP4501	C	DTA144EU	5C	XP4601	T	2SD1119	8B	UN5212	Z1	UMZ1N	8C	UN5213	Z	2SD601A	6D	UN5114	Z	2SD1819A	1B	MA111	1R	2SB1585	MC	MA143
MARKING	PART NO.	MARKING	PART NO.																																					
AS	2SA2010	1R	2SB970																																					
B	2SB1218A	2T	2SC5592																																					
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C	DTA144EU	5C	XP4601																																					
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Z	2SD1819A	1B	MA111																																					
1R	2SB1585	MC	MA143																																					
  																																								

6. DISASSEMBLY/ASSEMBLY PROCEDURES

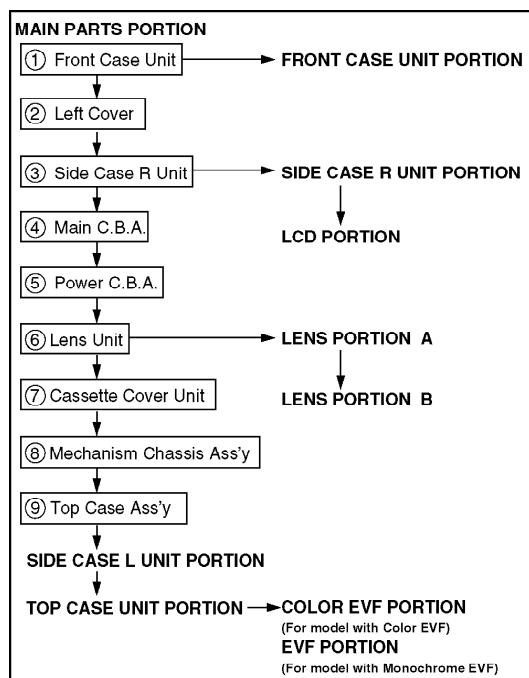
6.1. CABINET SECTION

6.1.1. Disassembly Flowchart

This flow chart indicates the disassembly steps of the cabinet parts and the P.C.Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse

order. Bend, route and dress the wires as they were originally.

Fig. D1



Note :

1. When removing the cabinet, work with care so as not to break the Locking Tabs.
2. Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.
3. When reinstalling, ensure that the connectors are connected and electrical components have not been damaged.
4. Do not supply power to the unit during disassembly and reassembly.

6.1.2. MAIN PARTS PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Front Case Unit	D2	3④③, 2④④, FP4801
②	Left Cover	D3	2④④
③	Side Case R Unit	D4	*Mono: 4④③, 3④④ *Color: 5④③, 2④④ ④④ B3 FP7, Short JIG C.B.A.
④	Main C.B.A.	D5	6④③, 2(L-1) P1, FP1, FP2, FP3, FP4, FP5, FP6, FP8 (FP11), FP9, FP301, FP701, Grounding Plate
⑤	Power C.B.A.	D5	B1
⑥	Lens Unit	D6	④④, (L-2)
⑦	Cassette Cover Unit	D7	-----
⑧	Mechanism Chassis Ass'y	D7	3④③
⑨	Top Case Ass'y	D8	*Mono: 3④③ *Color: ④③, 2④④ Top F.P.C.

↑ ↑ ↑ ↑
A B C D

*Mono: For Model with Monochrome EVF

*Color: For Model with Color EVF

How to read chart shown above:

A: Order of steps in Procedure

When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts in Figures.

B: Part to be removed or installed.

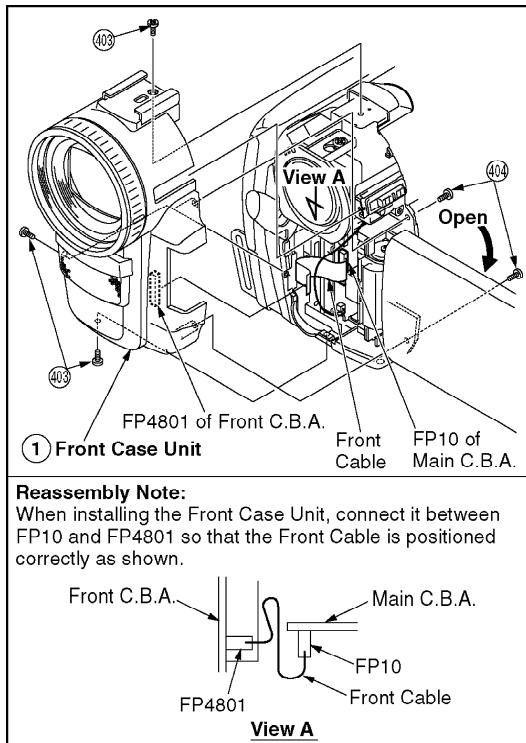
C: Fig. No. showing Procedure or Part Location.

D: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.

2(L-1)=2 Locking Tabs (L-1)

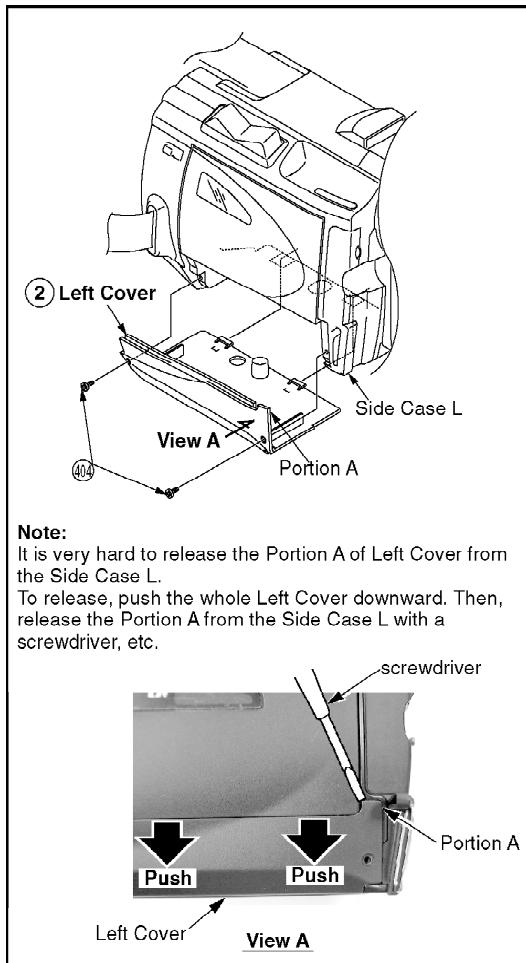
6.1.2.1. Front Case Unit

Fig. D2



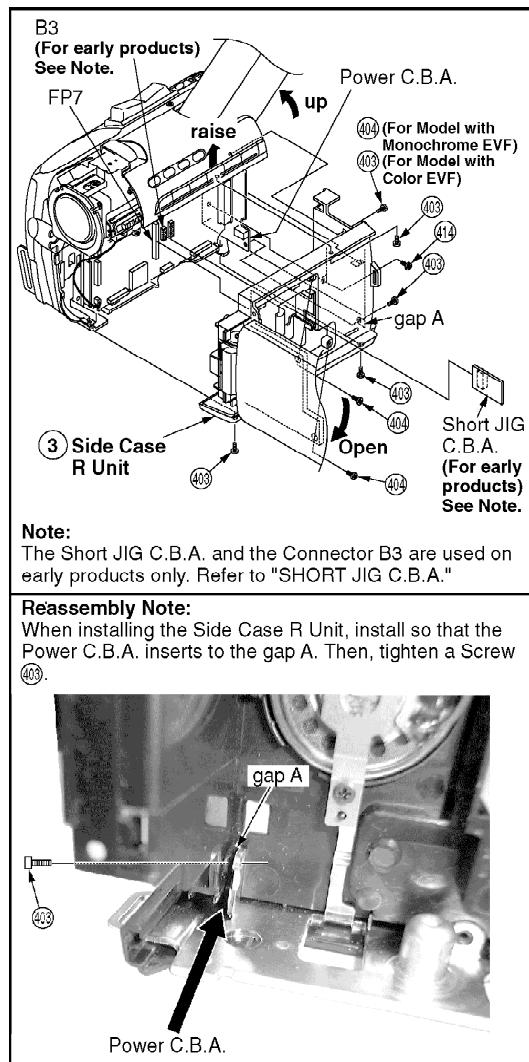
6.1.2.2. Left Cover

Fig. D3



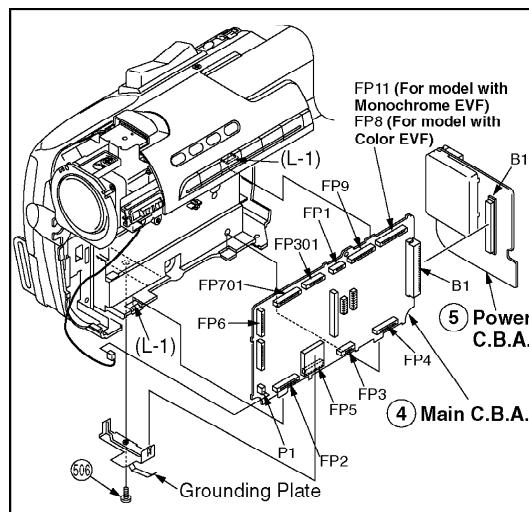
6.1.2.3. Side Case R Unit

Fig. D4



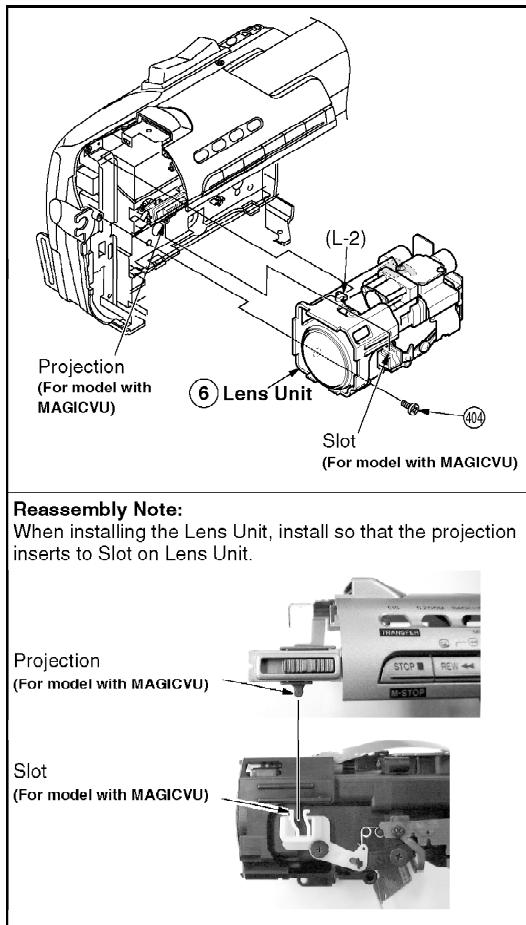
6.1.2.4. Main C.B.A., Power C.B.A.

Fig. D5



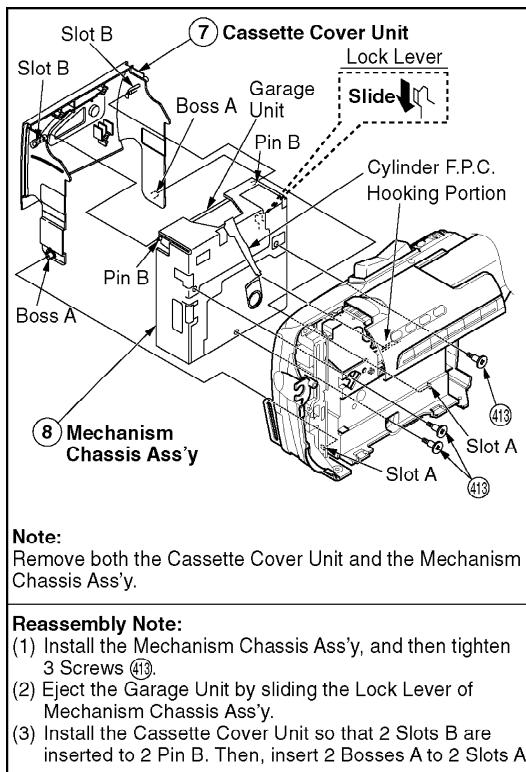
6.1.2.5. Lens Unit

Fig. D6



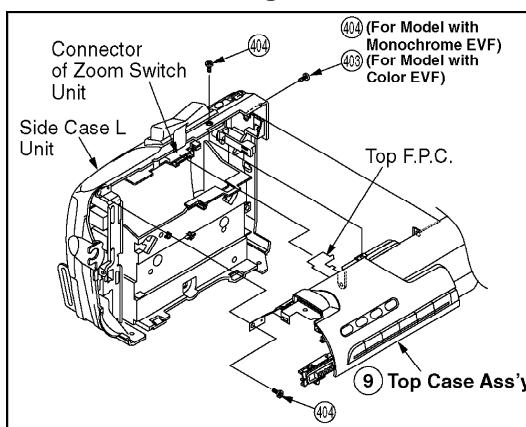
6.1.2.6. Cassette Cover Unit, Mechanism Chassis Ass'y

Fig. D7



6.1.2.7. Top Case Ass'y

Fig. D8

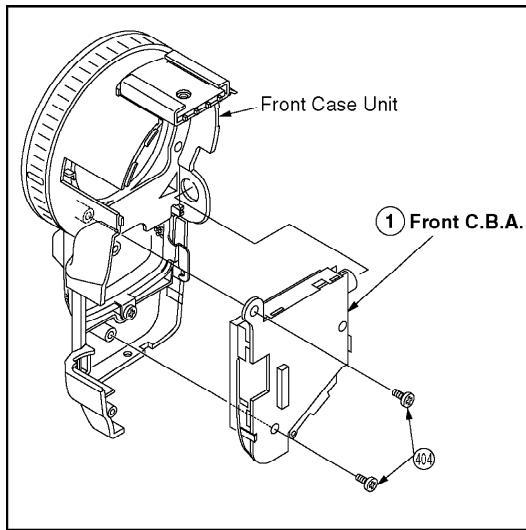


6.1.3. FRONT CASE UNIT PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Front C.B.A.	D9	2 ⑪
②	Lens Ring Unit	D10	3 ⑪

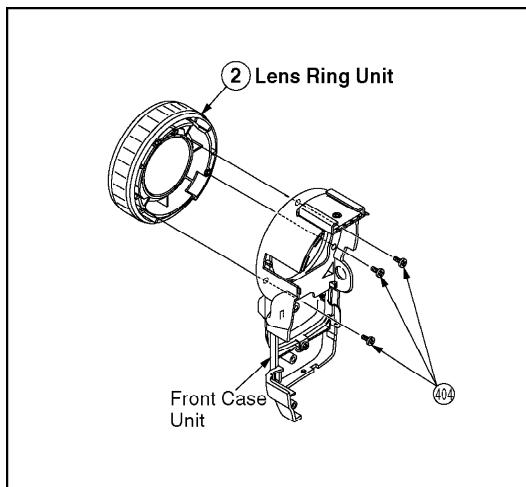
6.1.3.1. Front C.B.A.

Fig. D9



6.1.3.2. Lens Ring Unit

Fig. D10

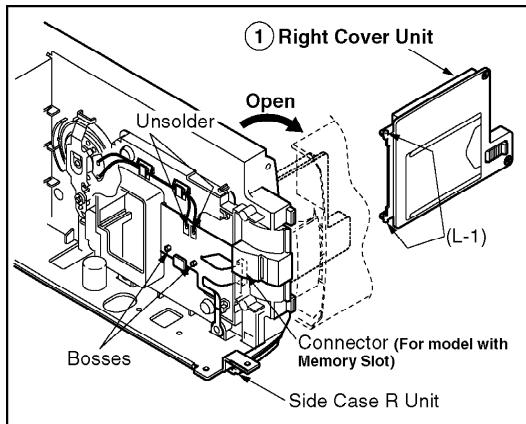


6.1.4. SIDE CASE R UNIT PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Right Cover Unit	D11	2(L-1), Connector, Unsolder
②	LCD Case Unit	D12	2④A, (L-2)
③	Speaker Unit	D13	④B
④	Tripod Frame	D13	-----

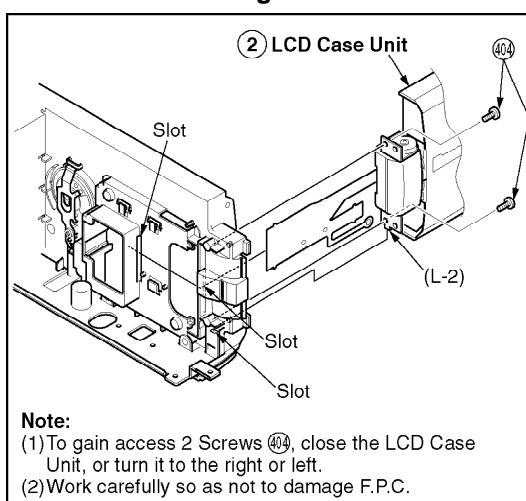
6.1.4.1. Right Cover Unit

Fig. D11



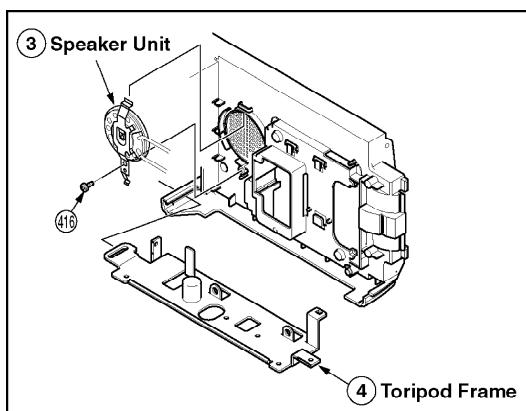
6.1.4.2. LCD Case Unit

Fig. D12



6.1.4.3. Speaker Unit, Toripod Frame

Fig. D13

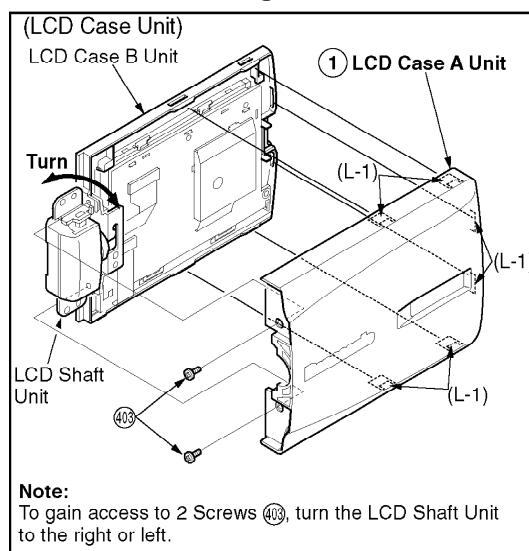


6.1.5. LCD PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	LCD Case A Unit	D14	2④③, 6(L-1)
②	LCD Shaft Unit	D15	FP8001
③	LCD Case B	D15	2④④
④	LCD C.B.A.	D16	④⑤, FP8002 (FP8003), Unsolder
⑤	LCD Panel Unit	D16	8(L-2)
⑥	LCD Lamp Unit	D17	3(L-3), LCD Sheet Unit

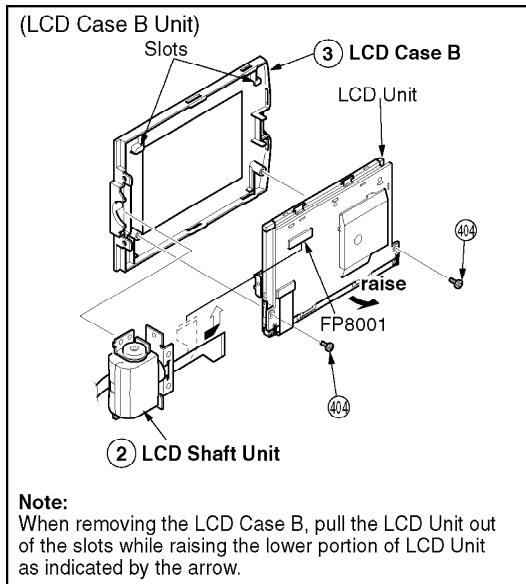
6.1.5.1. LCD Case A Unit

Fig. D14



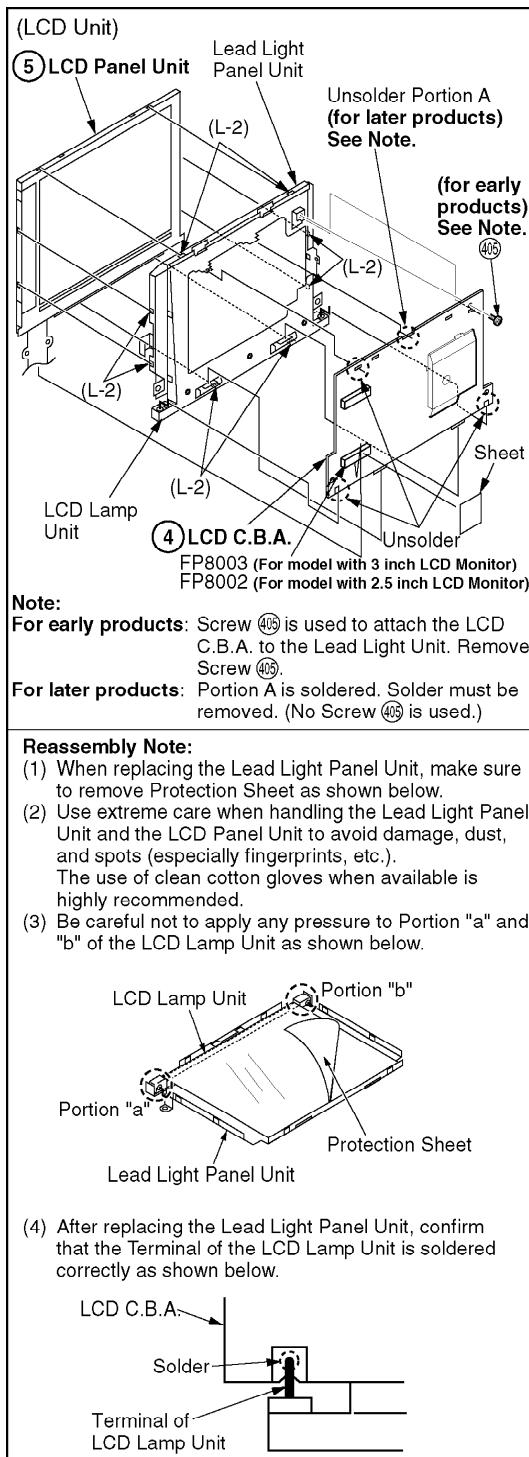
6.1.5.2. LCD Shaft Unit, LCD Case B

Fig. D15



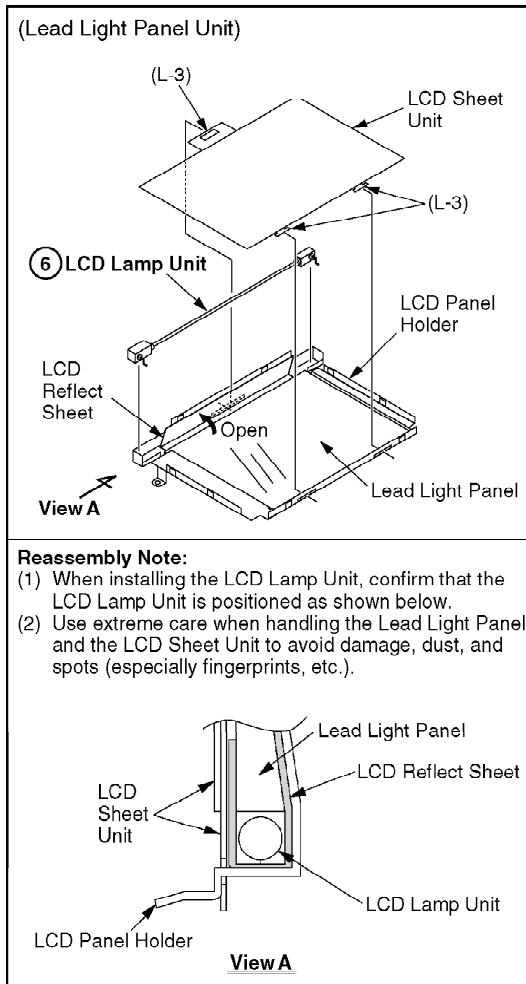
6.1.5.3. LCD C.B.A., LCD Panel Unit

Fig. D16



6.1.5.4. LCD Lamp Unit

Fig. D17



6.1.6. LENS PORTION A

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	CCD C.B.A.	D18-1	2②)
②	Filter Rubber	D18-1	----
③	Optical Filter	D18-1	----
④	Optical Filter Stopper	D18-1	----
⑤	IR Cut Filter	D18-1	----

6.1.6.1. CCD C.B.A., Filter Rubber, Optical Filter, Optical Filter Stopper, IR Cut Filter

Fig. D18-1

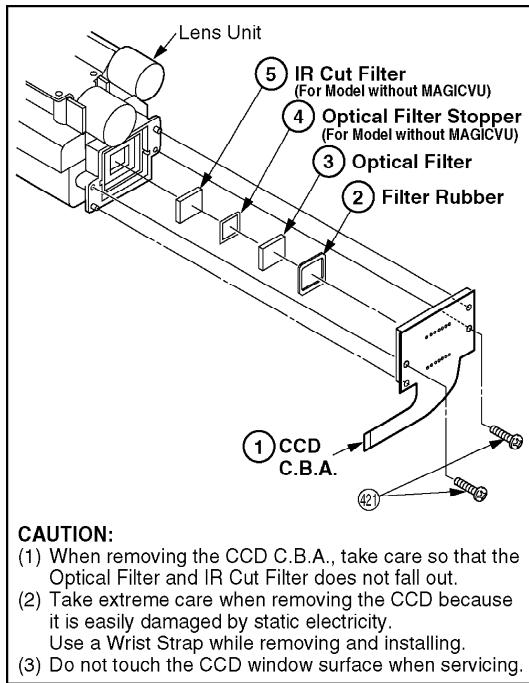
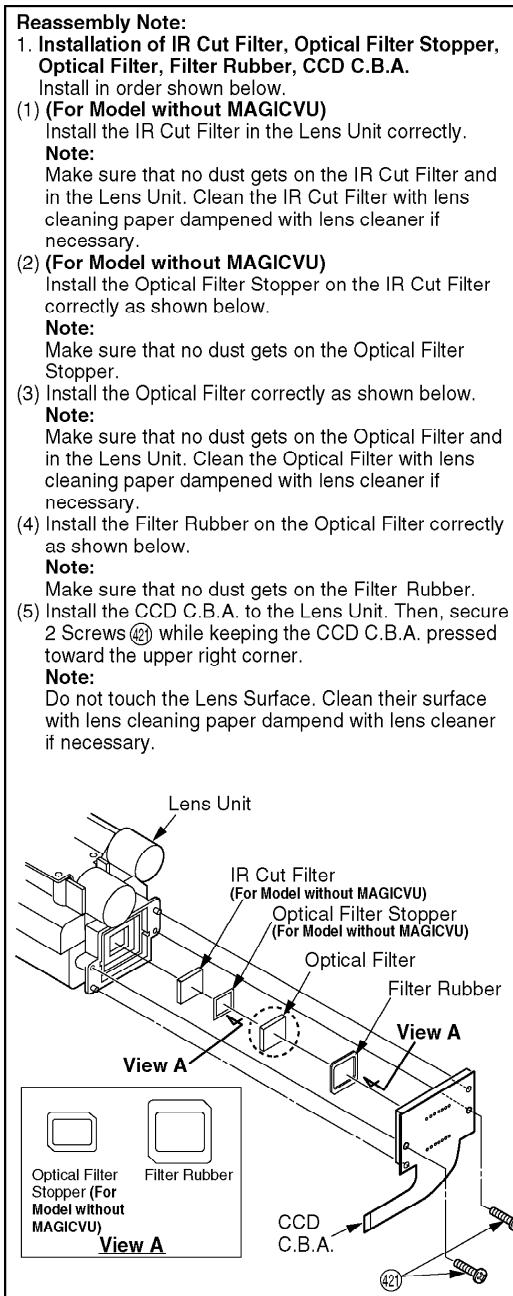


Fig. D18-2

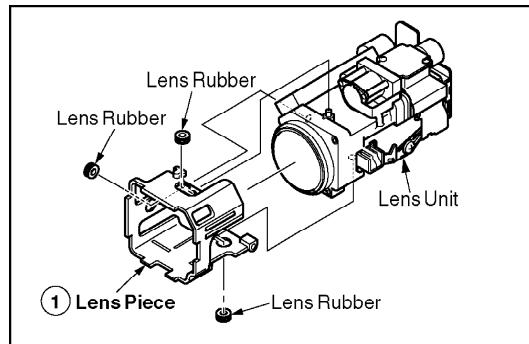


6.1.7. LENS PORTION B

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Lens Piece	D19	Lens Rubber
②	Focus Motor Unit	D20	2 ④②, Unsolder
③	Zoom Motor Unit	D20	2 ④②, Sheet, Unsolder

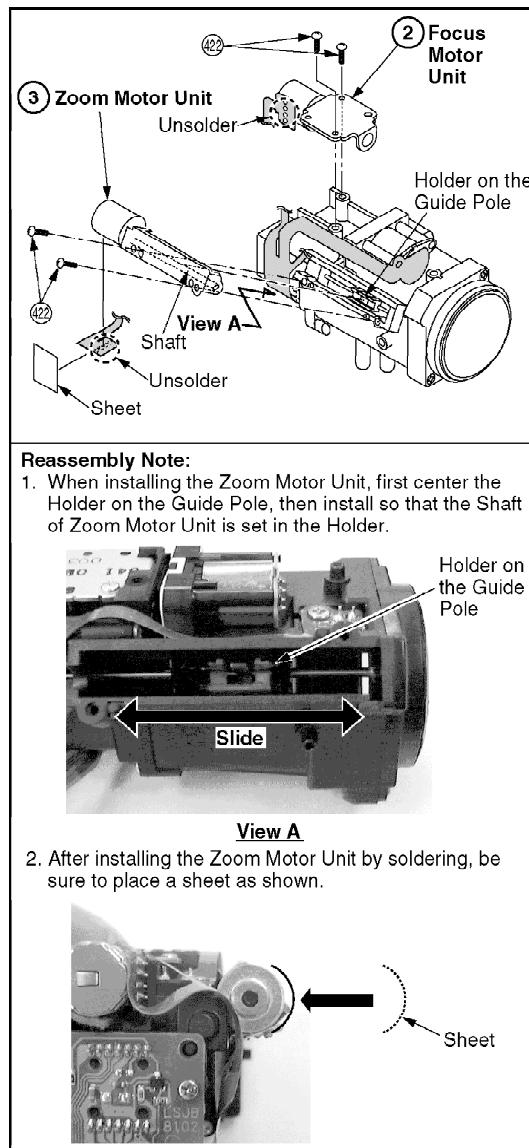
6.1.7.1. Lens Piece

Fig. D19



6.1.7.2. Focus Motor Unit, Zoom Motor Unit

Fig. D20

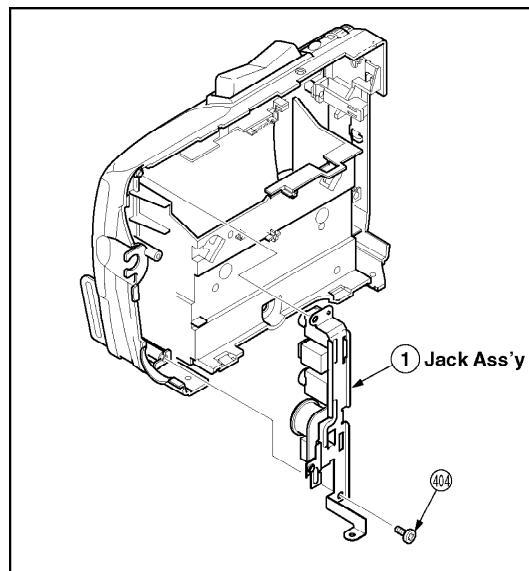


6.1.8. SIDE CASE L UNIT PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Jack Ass'y	D21	④④
②	Jack F.P.C.	D22	FP3701, FP3751
③	S-Jack C.B.A.	D22	④③
④	Jack C.B.A.	D22	④⑨
⑤	Jack Angle	D22	-----

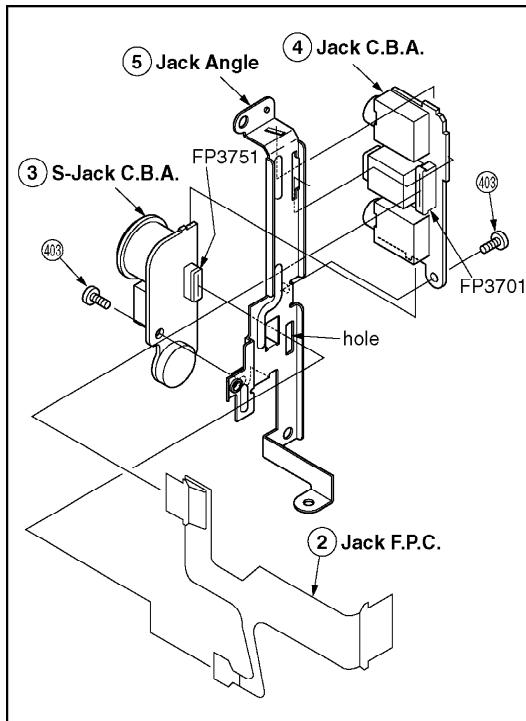
6.1.8.1. Jack Ass'y

Fig. D21



6.1.8.2. Jack F.P.C., S-Jack C.B.A., Jack C.B.A., Jack Angle

Fig. D22

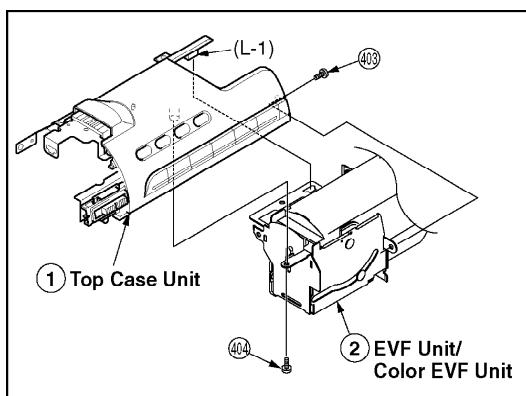


6.1.9. TOP CASE UNIT PORTION

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Top Case Unit	D23	④03, ④04, (L-1)
②	EVF Unit/ Color EVF Unit	D23	-----
③	Top Angle	D24	④04, (L-2)
④	Top Operation Unit	D24	(L-3)

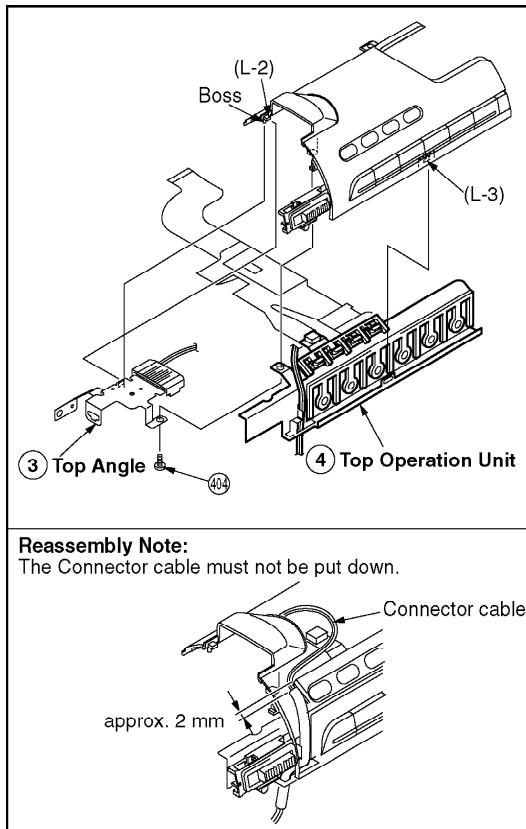
6.1.9.1. Top Case Unit, EVF Unit/Color EVF Unit

Fig. D23



6.1.9.2. Top Angle, Top Operation Unit

Fig. D24



6.1.10. EVF UNIT PORTION (For Model with Monochrome EVF)

STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Eye Cap Unit	D25	2(L-1)
②	EVF Base Holder	D26	3④
③	EVF Case A Unit	D27	2④
④	Dust Cover	D27	-----
⑤	EVF Case B Unit	D27	(L-3)
⑥	EVF F.P.C.	D28	FP901
⑦	CRT	D28	-----
⑧	Deflection Yoke	D28	P902, CRT Socket Unit
⑨	EVF C.B.A.	D28	-----

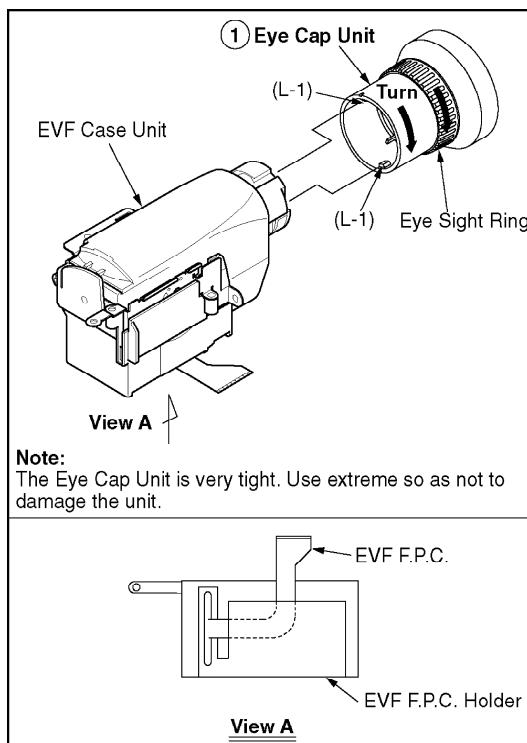
Note:

When disassembling or reassembling, make sure that no dust gets

in EVF Unit.

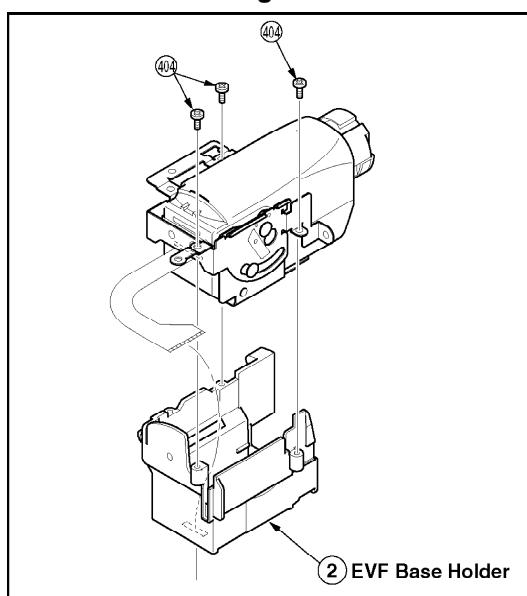
6.1.10.1. Eye Cap Unit

Fig. D25



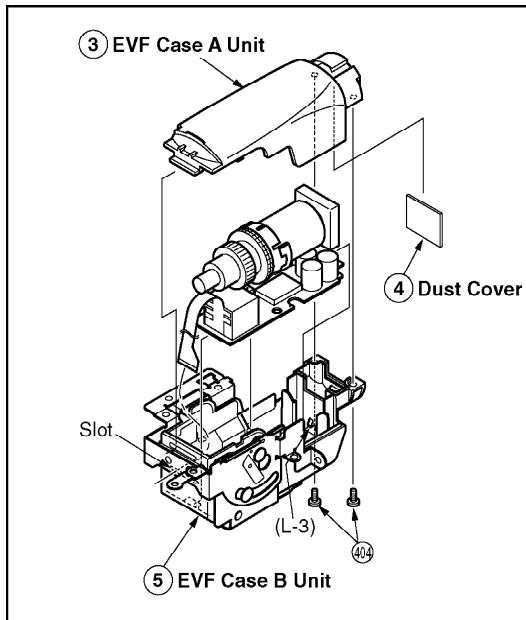
6.1.10.2. EVF Base Holder

Fig. D26



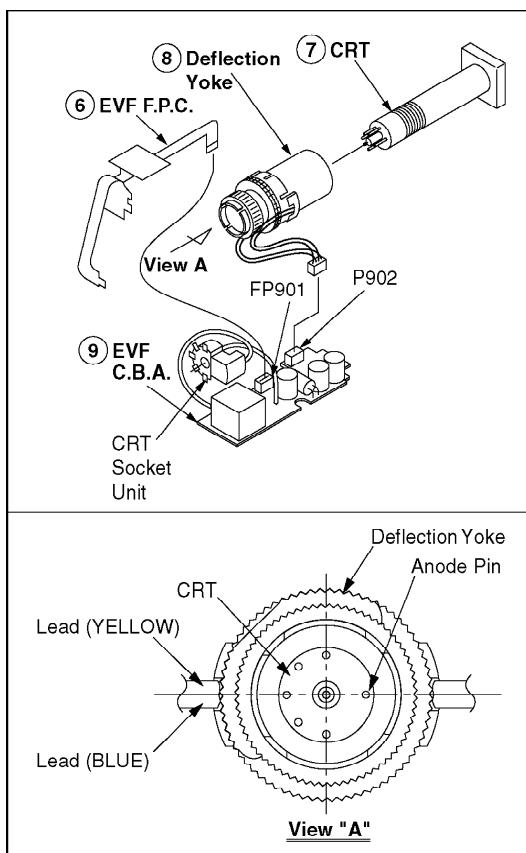
6.1.10.3. EVF Case A Unit, Dust Cover, EVF Case B Unit

Fig. D27



6.1.10.4. EVF F.P.C., CRT, Deflection Yoke, EVF C.B.A.

Fig. D28



6.1.11. COLOR EVF UNIT PORTION

(For Model with Color EVF)

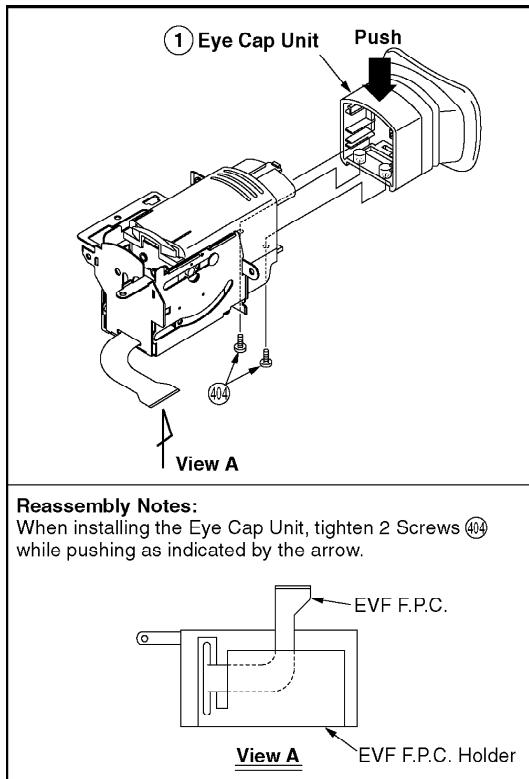
STEP /LOC. No.	PART	Fig. No.	REMOVE
①	Eye Cap Unit	D29	2④④
②	LCD EVF Case A	D30	2④⑦
③	EVF Panel Unit	D30	FP901
④	EVF F.P.C. Holder	D31	2(L-1)
⑤	EVF Fixing Angle	D31	2④⑦, 2(L-2)
⑥	LCD EVF Case	D31	-----
⑦	EVF F.P.C.	D31	-----
⑧	LCD EVF Angle Unit	D31	-----
⑨	Color EVF C.B.A.	D32	2(L-3), FP902
⑩	EVF Protect A	D32	4(L-4)
⑪	Protect Plate	D32	-----
⑫	LED Diffusion Plate	D32	-----
⑬	LED Lens	D32	-----
⑭	EVF LCD Holder	D32	-----
⑮	LCD Panel	D32	2(L-5)
⑯	EVF Protect B	D32	-----

Note:

When disassembling or reassembling, make sure that no dust gets in Color EVF Unit.

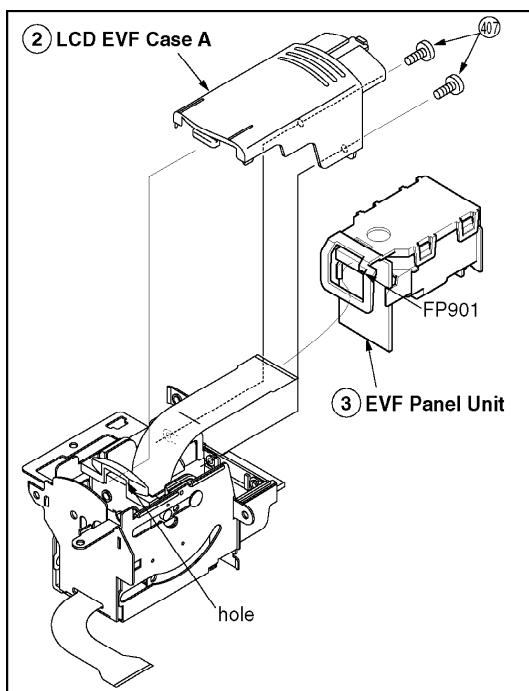
6.1.11.1. Eye Cap Unit

Fig. D29



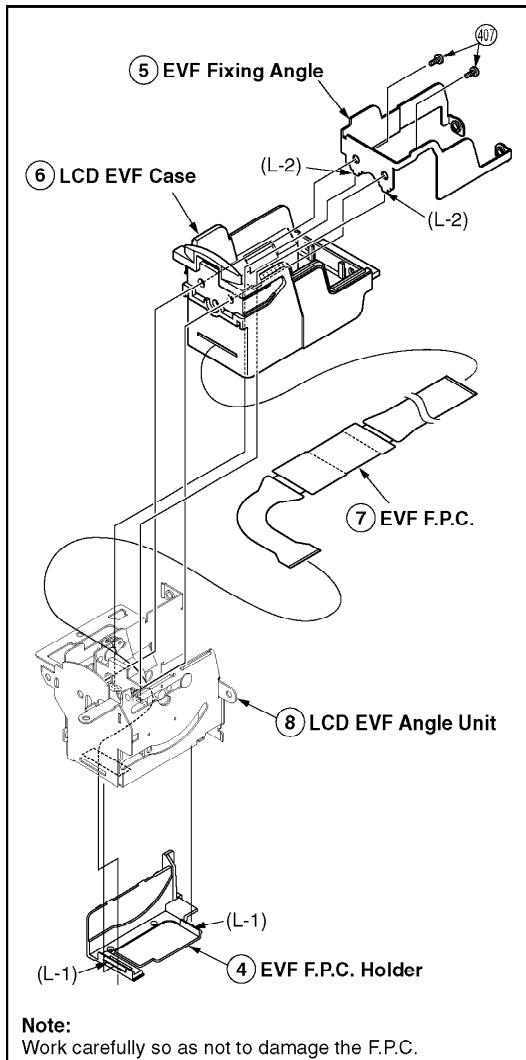
6.1.11.2. LCD EVF Case A, EVF Panel Unit

Fig. D30



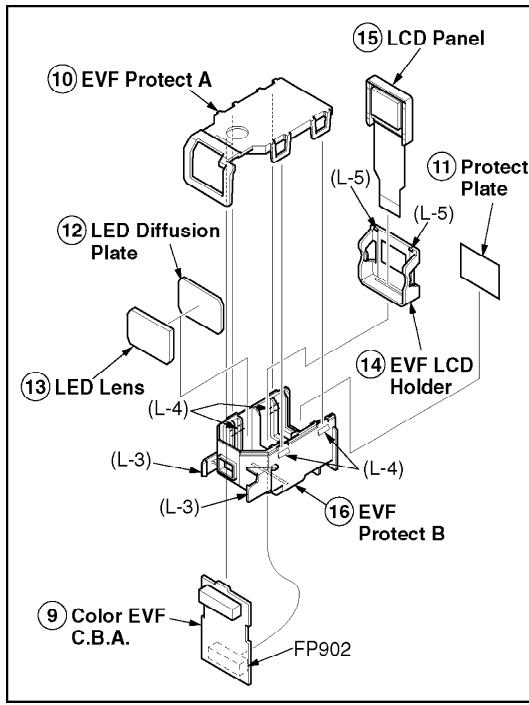
6.1.11.3. EVF F.P.C. Holder, EVF Fixing Angle, LCD EVF Case, EVF F.P.C., LCD EVF Angle Unit

Fig. D31



6.1.11.4. Color EVF C.B.A., EVF Protect A, Protect Plate, LED Diffusion Plate, LED Lens, EVF LCD Holder, LCD Panel, EVF Protect B

Fig. D32



6.2. SCREWS FOR DISASSEMBLY/ASSEMBLY OF CABINET

6.3. MECHANISM SECTION

This procedure starts with the condition that the cabinet parts and Main C.B.A. have been removed.
When reassembling, perform the step(s) in the reverse order.
Perform all disassembly/reassembly and alignments procedures in STOP Position except disassembly/reassembly and alignment procedures which have the special Notes.

STEP LOC. No.	Prior Step (s)	Part	Fig. No.	Remove	Alignment /Adjustment
①	---	Not used	-	-	
②	---	Guide Piece L	DM4	④ (L-2)	
③	---	Guide Piece R	DM4	④ (L-2)	
④	2,3	Garage Unit	DM4		
⑤	---	Cylinder Unit	DM5	④ (L-2)	
⑥	2,3,4	Damper Unit	DM6	④ (L-2)	
⑦	---	DEW Sensor	DM7	Unsolder	
⑧	7	Mechanism F.P.C. Unit	DM8	2④, 4(L-3), Unsolder	
⑨	---	Reduction Gear B	DM9	④ (L-2)	
⑩	2,3,4	Mechanism Cover Unit	DM10	④ (L-4), ④ (L-2) Hooking Portions	
⑪	2,3,4,10	Idler Arm Unit	DM11		
⑫	2,3,4,10,11	Center Gear	DM11		
⑬	2,3,4	Tension Arm Unit	DM12	④ (L-2)	
⑭	2,3,4,13	S Reel Table	DM13	④ (L-2)	
⑮	2,3,4	T Reel Table	DM13	④ (L-2)	
⑯	-	Not used	-	-	
⑰	2,3,4	T Brake Unit	DM15	(L-5), Screw, Plate	
⑱	2,3,4	T4 Height Plate	DM16	④ (L-2)	
⑲	2,3,4,18	Pinch Arm Unit	DM16	Hooking Portions	Adjustment
⑳	5,8,13,18,19	Rail	DM17	④ (L-6), 4(L-7)	
㉑	5,9,13,18,19,20	Cylinder Base Unit	DM18	④ (L-2)	Adjustment
㉒	5,9,13,18,19,20	S Arm Unit	DM19		Gear Alignment
㉓	5,9,13,18,19,20,22	T Arm Unit	DM19		Gear Alignment
㉔	6,9,13,18,19,20,22	S Post Unit	DM19		Adjustment
㉕	5,9,13,18,19,20,22,23,24	T Post Unit	DM19		Adjustment
㉖	5,9,13,18,19,20,21,22	Loading Motor Unit	DM20	④ (L-2)	
㉗	2,3,4,10,11,12,13,14,15	Sensor F.P.C.	DM21	④ (L-2)	
㉘	2,3,4,10,11,12,13,14,15,16,17	Tension Drive Arm	DM22		
㉙	2,3,4,10,11,12,13,14,15,16,17,28	S Brake Drive Lever	DM22		
㉚	2,3,4,10,11,12,13,14,15,16,17,28,29	Cam Gear	DM23		Gear Alignment
㉛	2,3,4,10,11,12,13,14,15,16,17,18,19,27	Pinch Drive Arm	DM24		
㉜	2,3,4,5,9,10,11,12,13,14,15,16,17,18,19,20,22,23,24,25,27,28,29,30,31,35,36,37,38	Intermediate Gear	DM24		Gear Alignment
㉝	2,3,4,5,6,8,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,27,28,29,30,31,35,36,37,38	Mode Switch	DM25	④ (L-2)	Gear Alignment
㉞	2,3,4,7,8	MIC Switch	DM26	④ (L-2)	
㉟	2,3,4,10,11,12,13,14,15,16,17,18,19,27,28,29,30,31	Main Plate Unit	DM27		Gear Alignment
㉟	2,3,4,10,11,12,13,14,15,16,17,18,19,27,28,29,30,31,35	T4 Drive Arm	DM28		
㉟	2,3,4,10,11,12,13,14,15,16,17,18,19,27,28,29,30,31,35,36	Drive Pulley	DM29		
㉟	2,3,4,5,6,8,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,27,28,29,30,31,35,36,37,38	Capstan Unit	DM30	④ (L-2)	Adjustment
㉟	2,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,27,28,29,30,31,35,36,37,38	Timing Belt	DM30		
㉟	2,3,4,5,6,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,27,28,29,30,31,35,36,37,38	Capstan Adjust Spring	DM30		
㉟	2,3,4,7,8,34,41	Lock Lever Unit	DM31	④ (L-2), looking Portion	
㉟	2,3,4,7,8,34,41	Lock Pick Lever	DM31		

A

B

C

D

E

F

How to read chart shown above:

A: Order of Procedure steps.

When reassembling, perform steps(s) in reverse order.
These numbers are also used as the identification
(location) No. of parts in Figures.

B: Steps to be completed prior to the current step.

C: Part to be removed or installed.

D: Fig. No. showing Procedure or Part Location.

E: Identification of part to be removed, unhooked, unlocked,
released, unplugged, unclamped, or unsoldered.
2(L-1) =2 Looking Tabs (L-1)

F: Alignment/ Adjustment which is required when installing
or replacing each parts.

CAUTION:

- a. Use a wrist strap to provide ESD protection while disassembling or assembling.
- b. Removed Cut Washer is not reusable. If removed, install a new one.

Following Cut Washers are to be used:

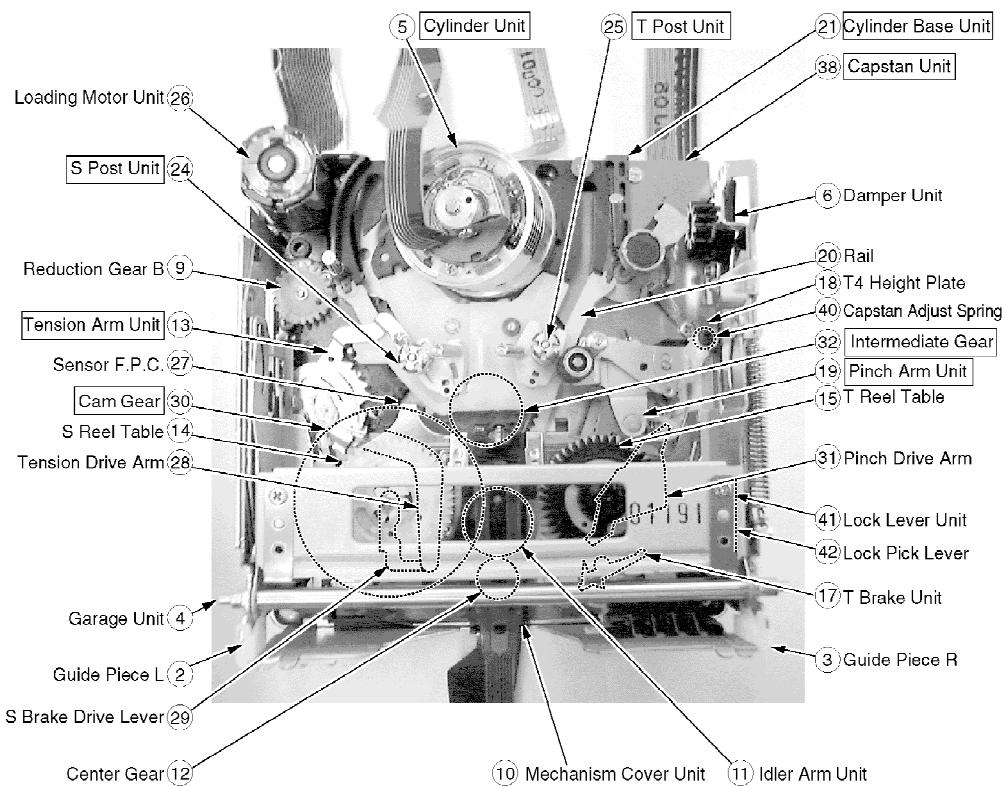
Ref. No.	Part No.
④ (L-2)	VMX2026
④ (L-2)	VMX2750
④ (L-2)	VMX2028

6.3.1. Inner Parts Location

Note: BOX indicates alignment (Gear alignment or Tape Path Alignment with L.I.S.T.A.) required when a part is replaced.

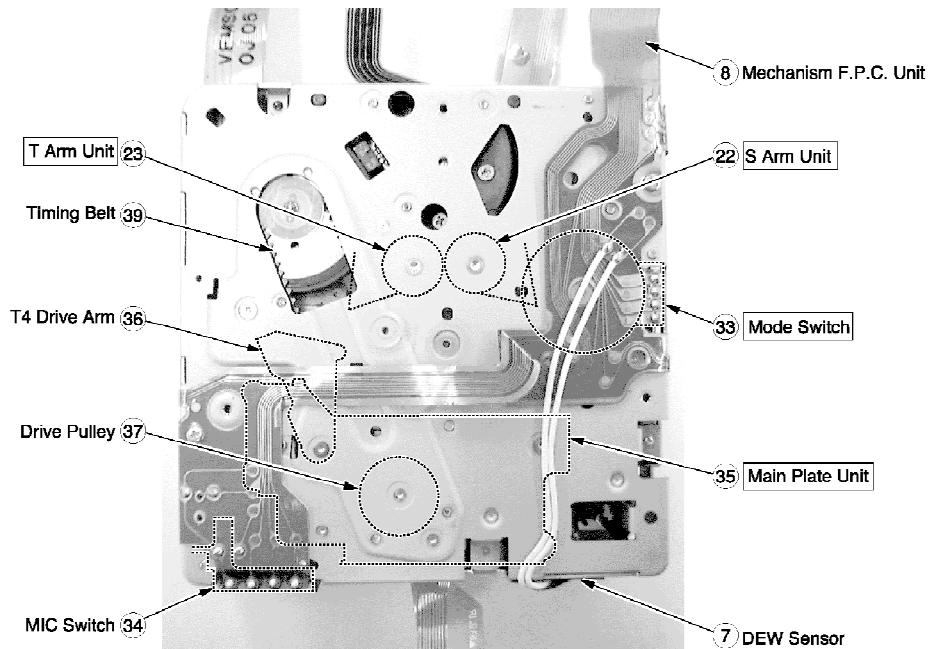
6.3.1.1. TOP VIEW

Fig. DM1-1



6.3.1.2. BOTTOM VIEW

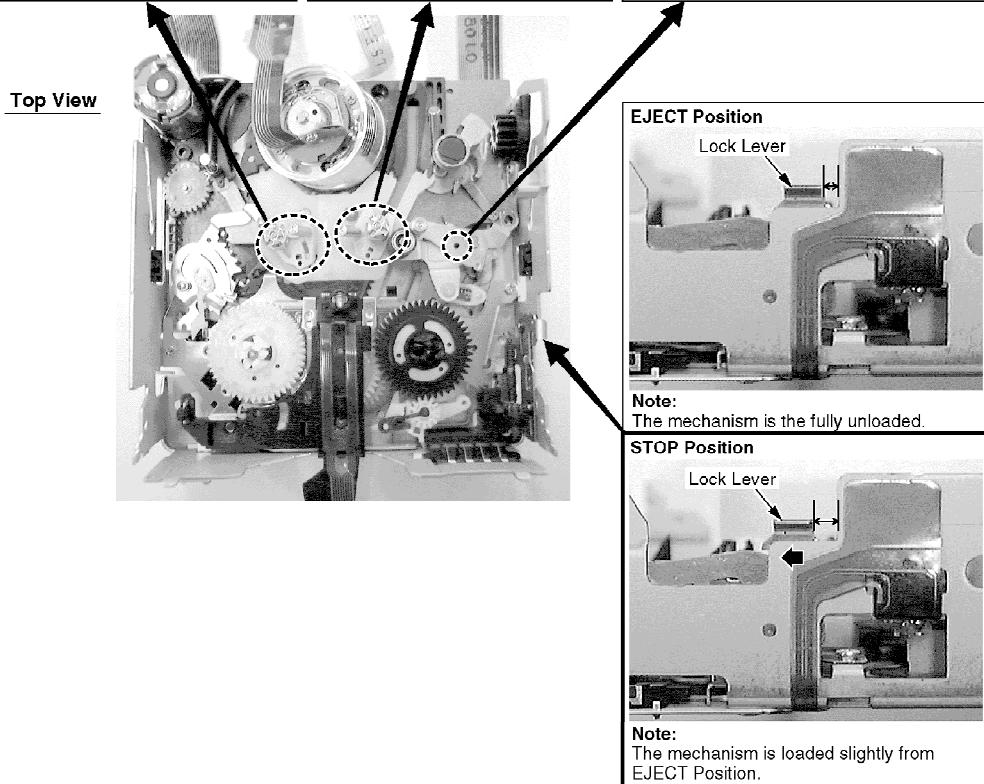
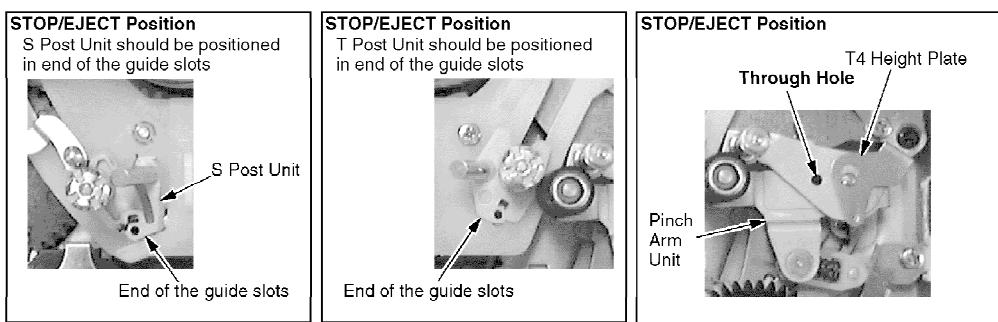
Fig. DM1-2



6.3.2. STOP Position Confirmation

Check the following points to confirm that the Mechanism is in STOP Position from the top side.

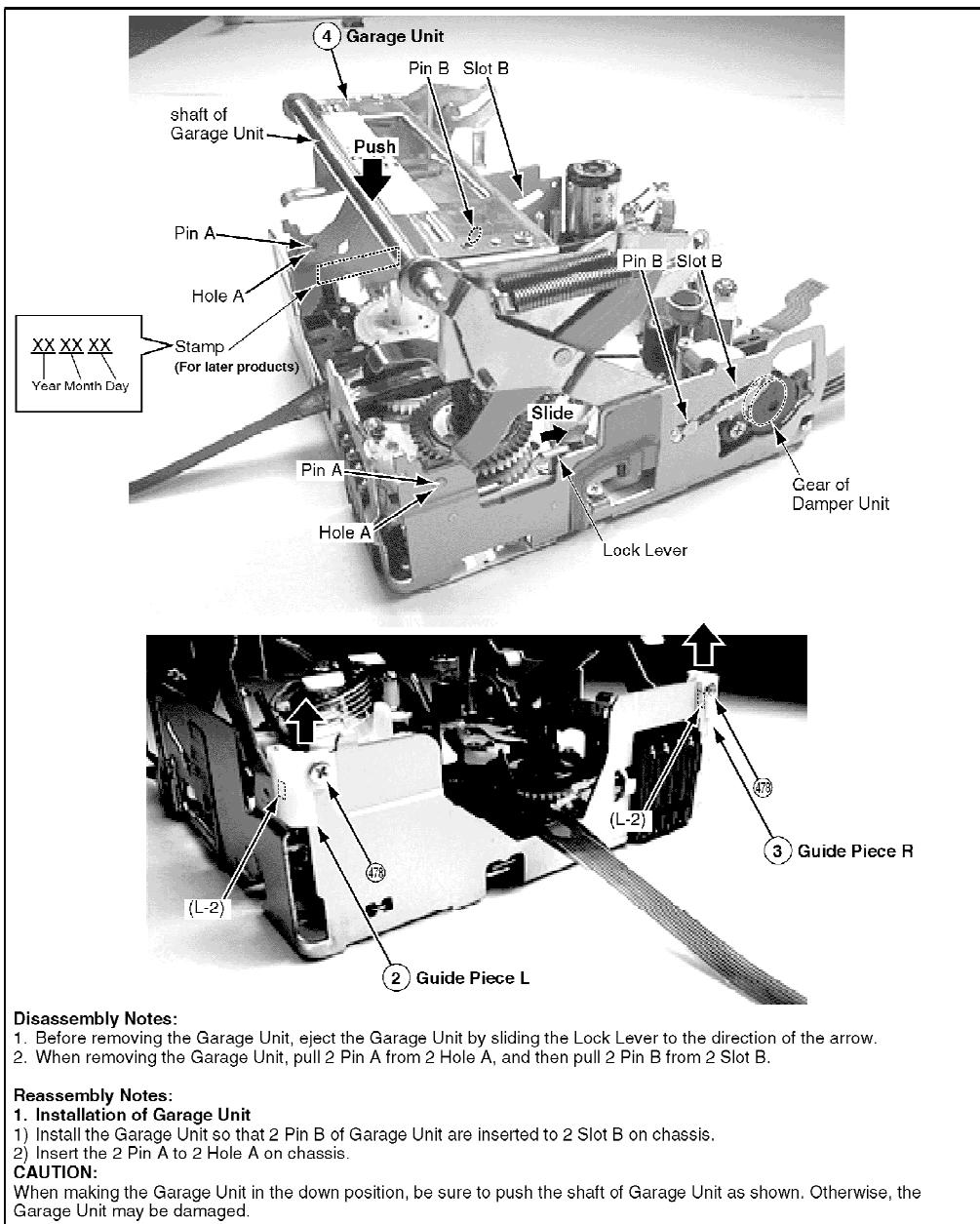
Fig. DM2



Perform all disassembly/reassembly and alignments procedures in STOP Position except disassembly/reassembly and alignment procedures which have the special notes.

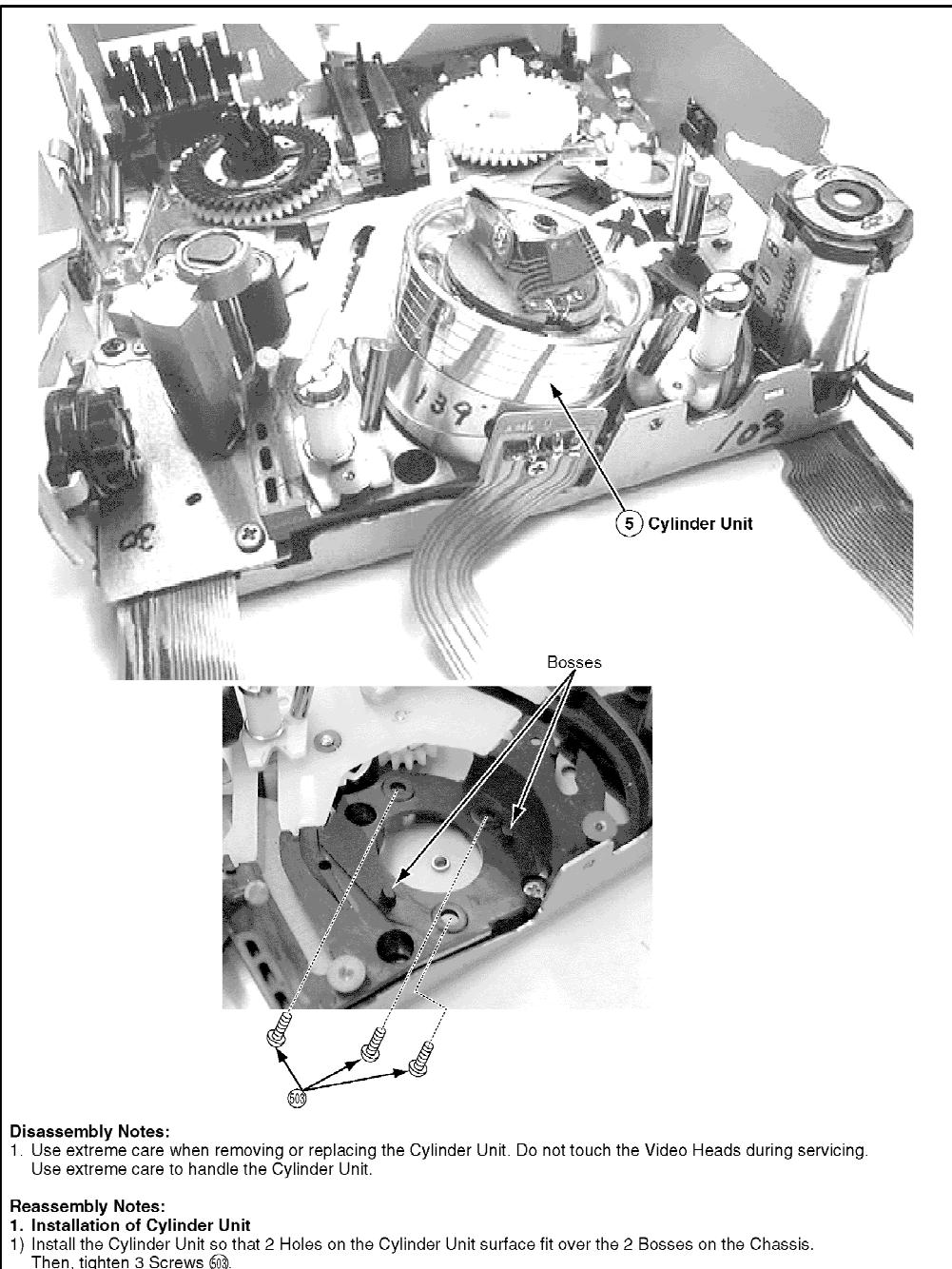
6.3.3. Guide Piece L, Guide Piece R, Garage Unit

Fig. DM4



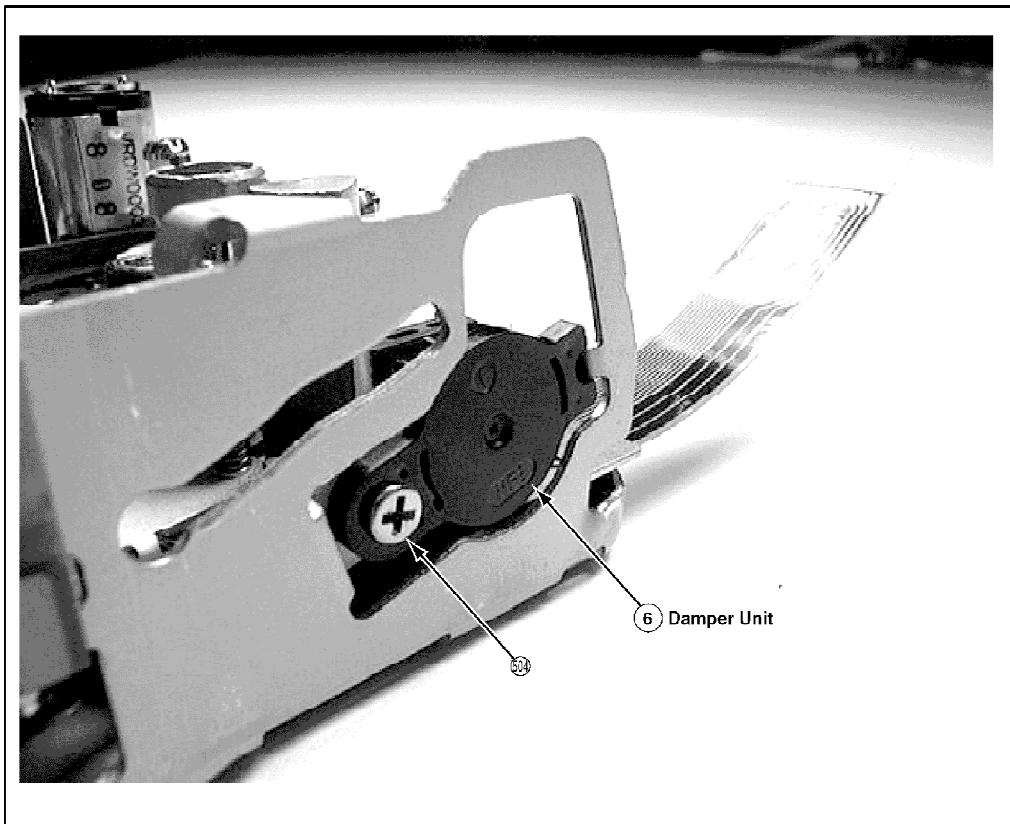
6.3.4. Cylinder Unit

Fig. DM5



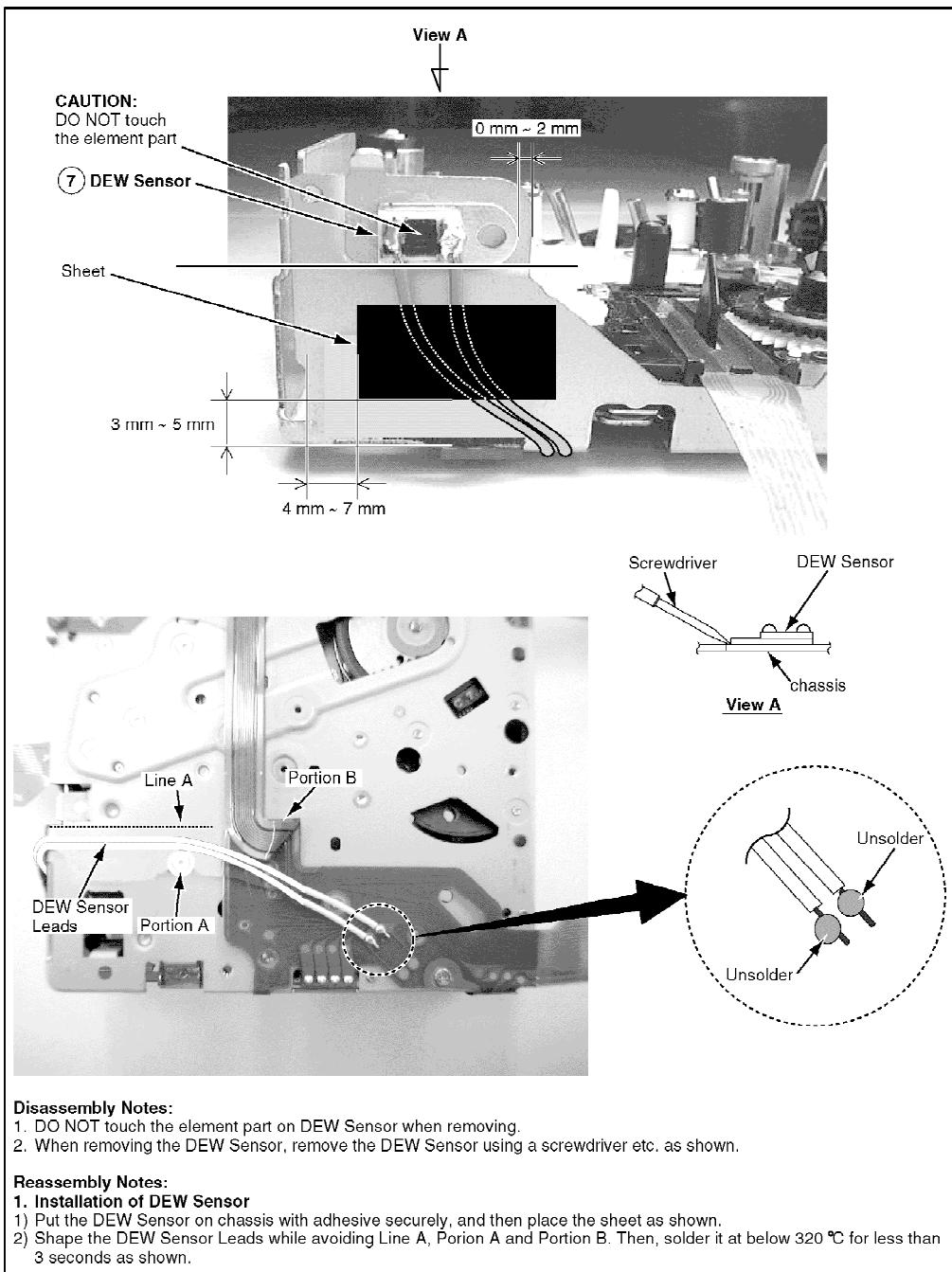
6.3.5. Dumper Unit

Fig. DM6



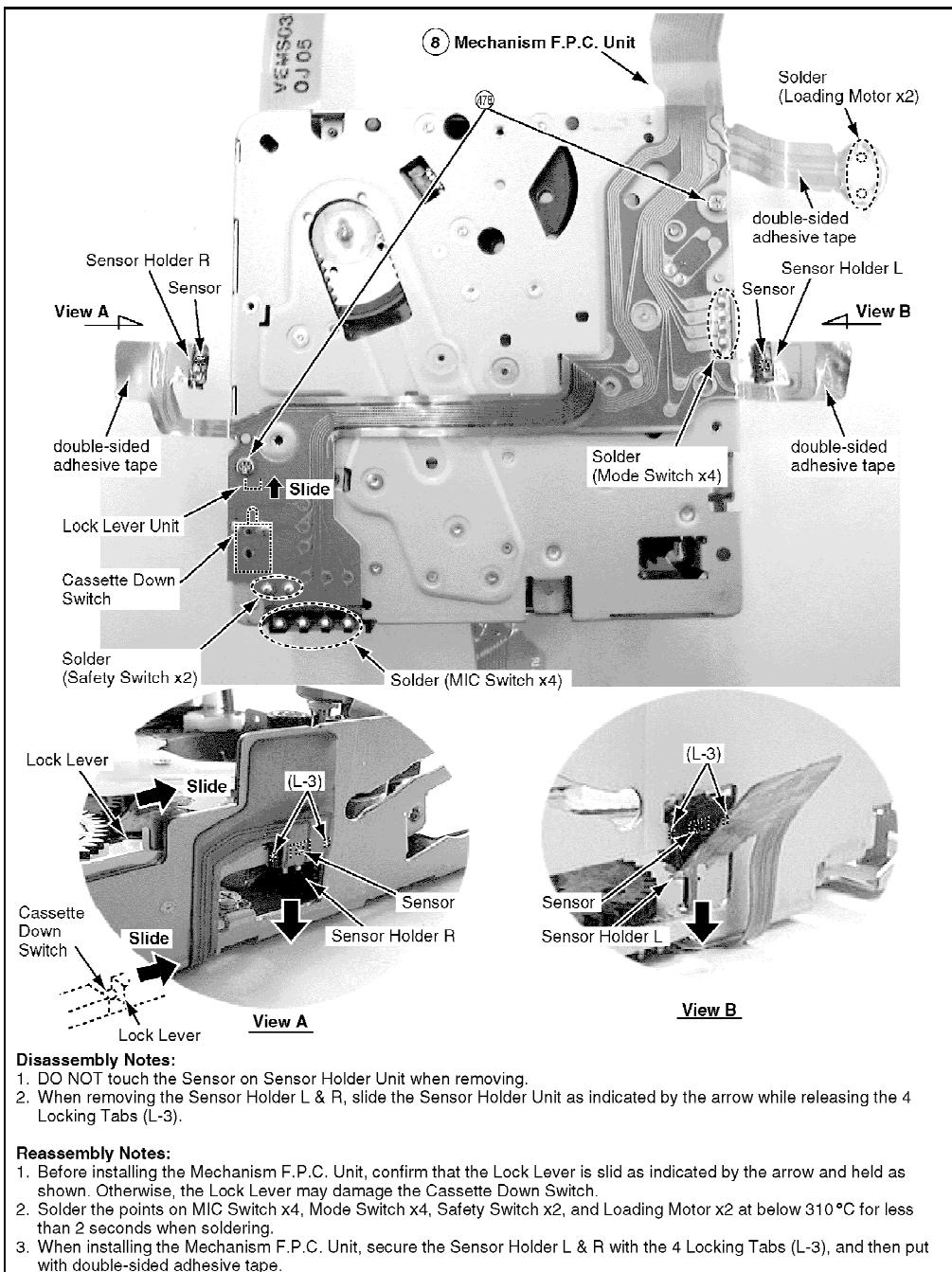
6.3.6. DEW Sensor

Fig. DM7



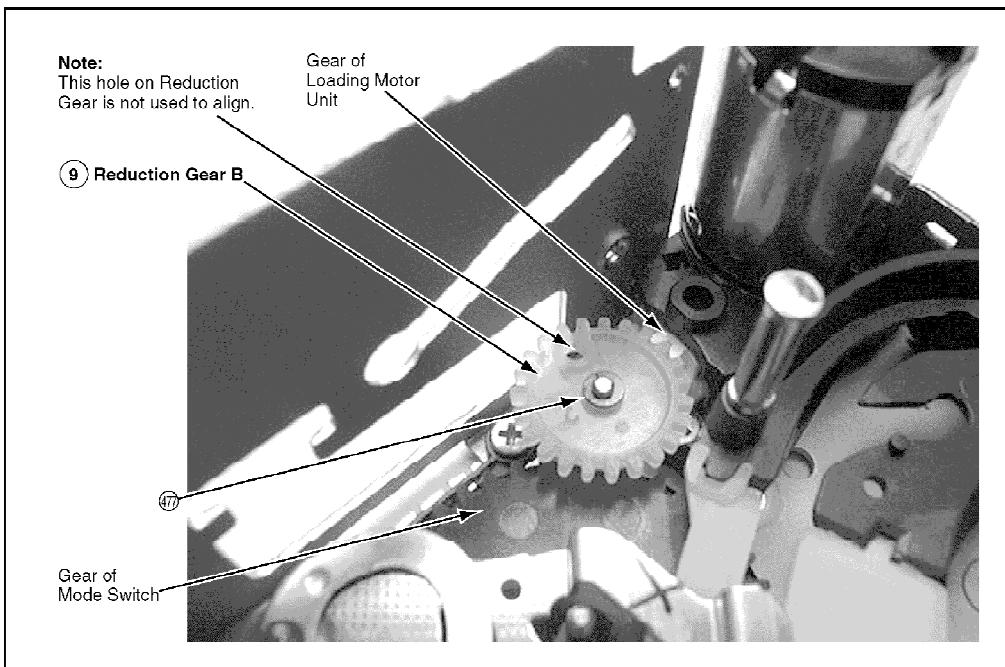
6.3.7. Mechanism F.P.C. Unit

Fig. DM8



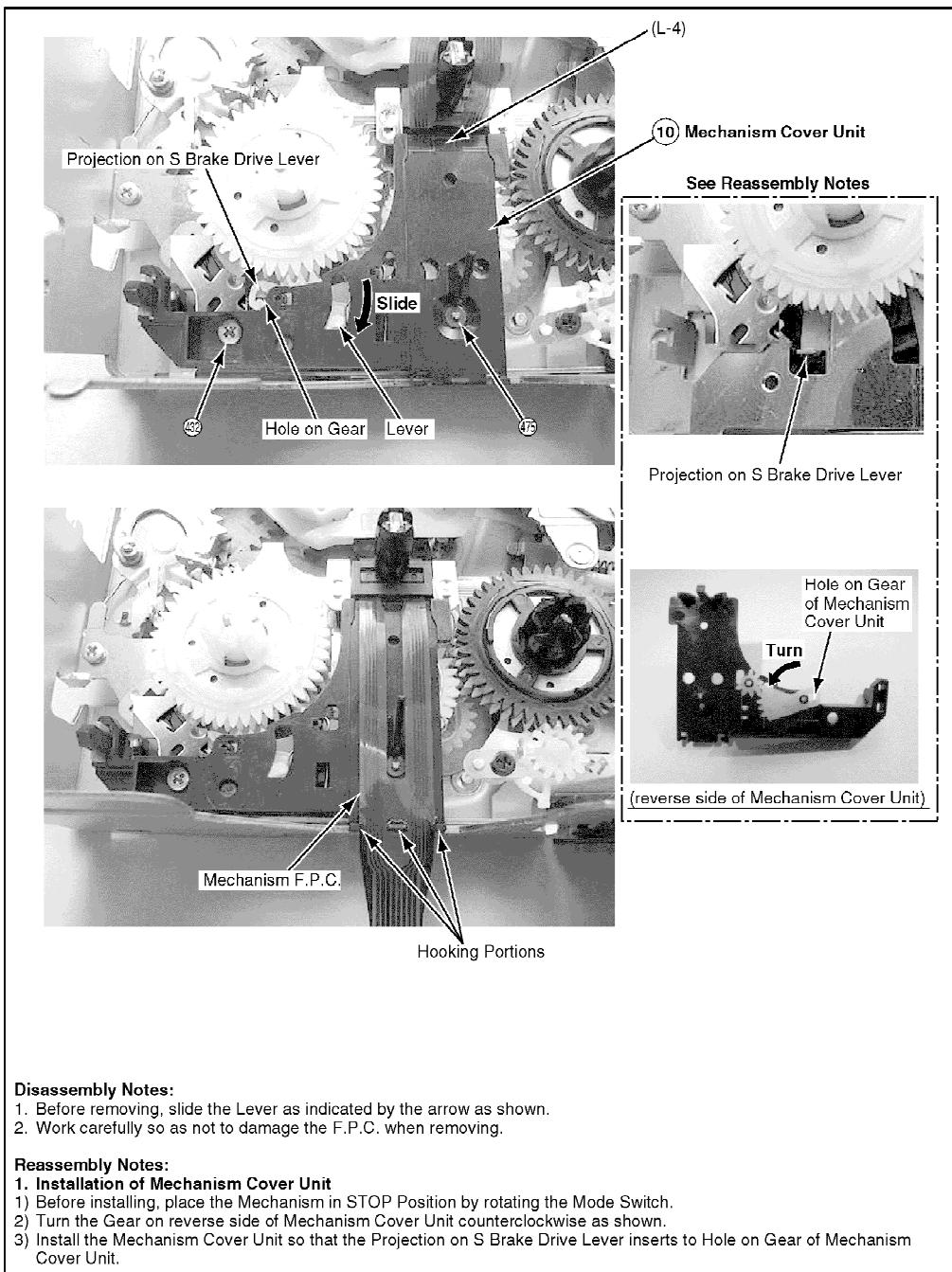
6.3.8. Reduction Gear B

Fig. DM9



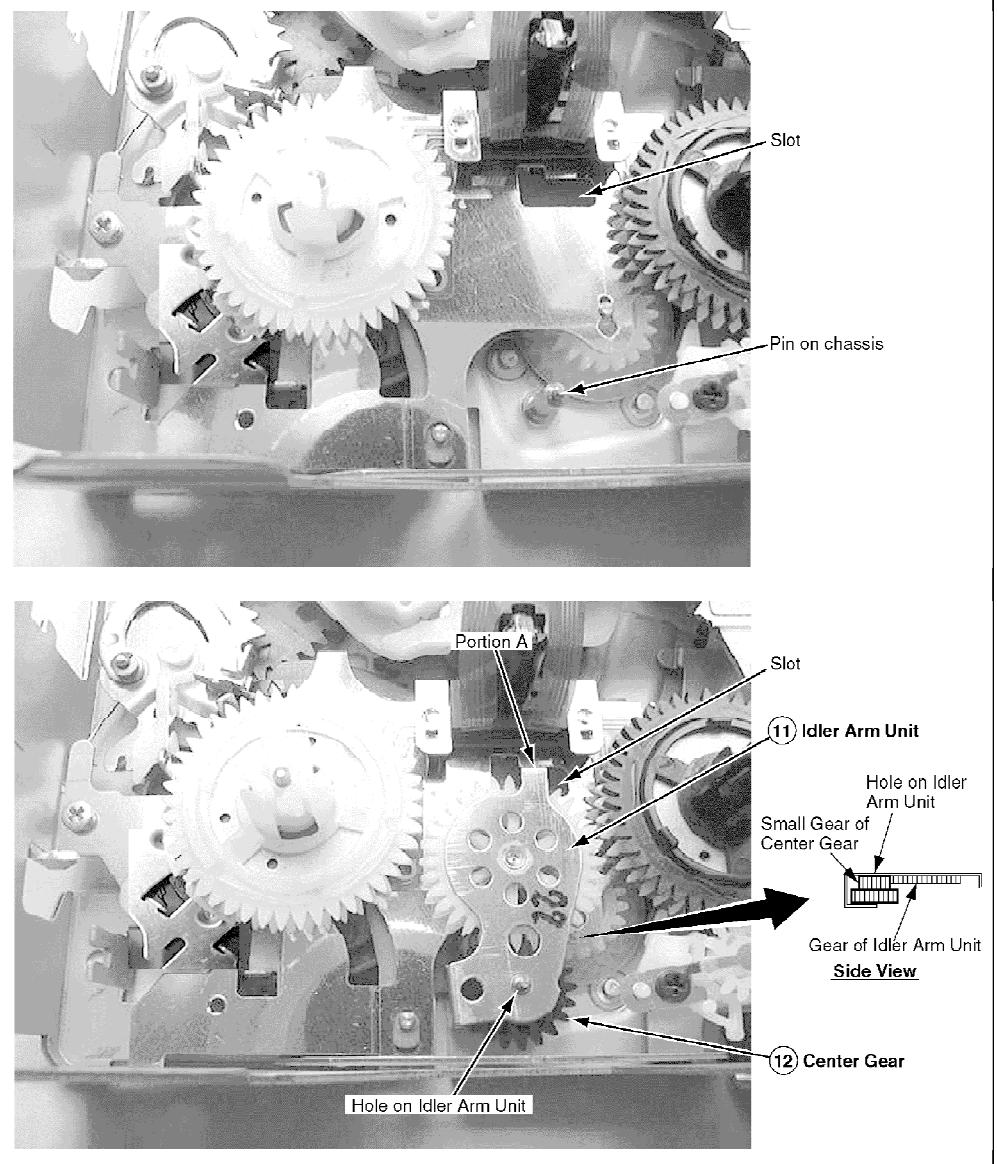
6.3.9. Mechanism Cover Unit

Fig. DM10



6.3.10. Idler Arm Unit, Center Gear

Fig. DM11



Disassembly Notes:

1. When removing the Idler Arm Unit, remove both of Idler Arm Unit and Center Gear together.

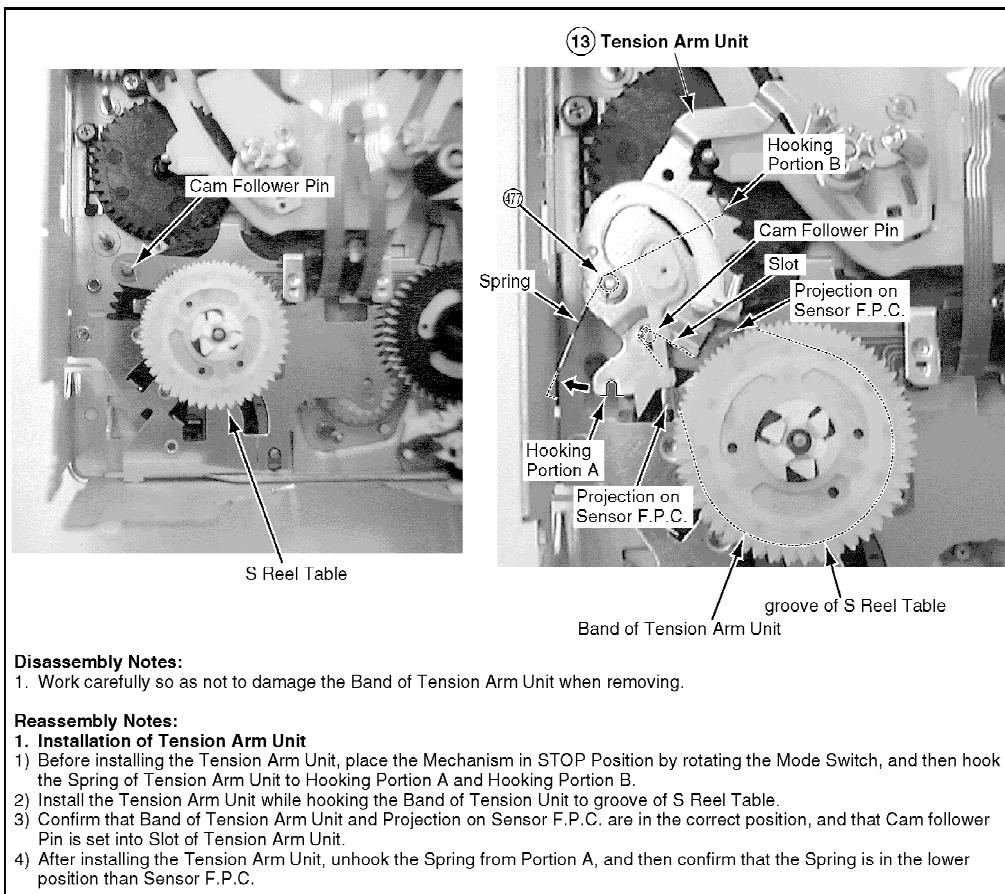
Reassembly Notes:

1. Installation of Idler Arm Unit and Center Gear

- 1) Set the Center Gear into Idler Arm Unit so that Hole on Idler Arm Unit are Through Holes. Confirm that the Small Gear of Center Gear engages with Gear of Idler Arm Unit.
- 2) Install Both of them together so that Pin on chassis is inserted to Hole on Idler Arm Unit, and Portion A is in Slot.

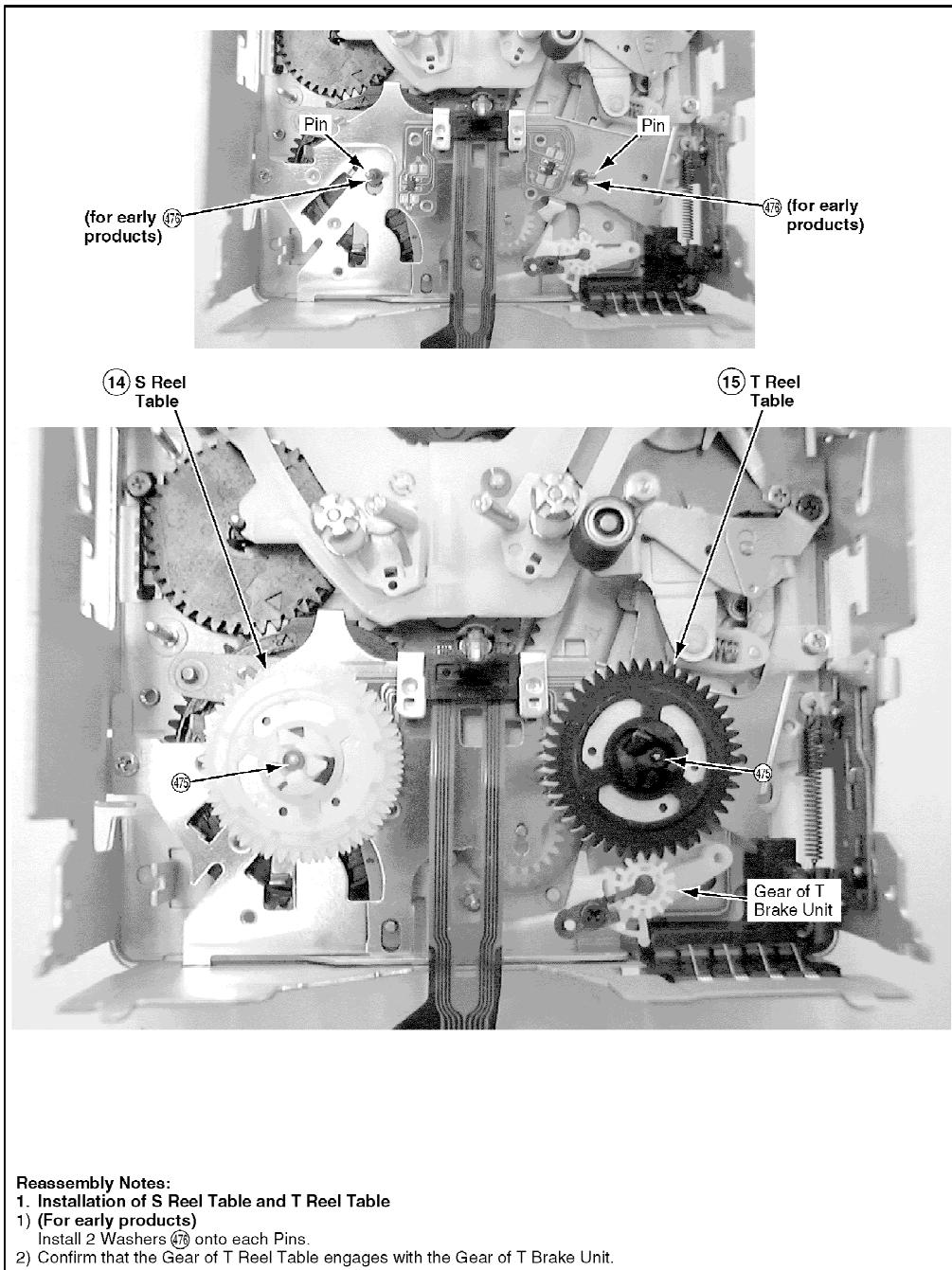
6.3.11. Tension Arm Unit

Fig. DM12



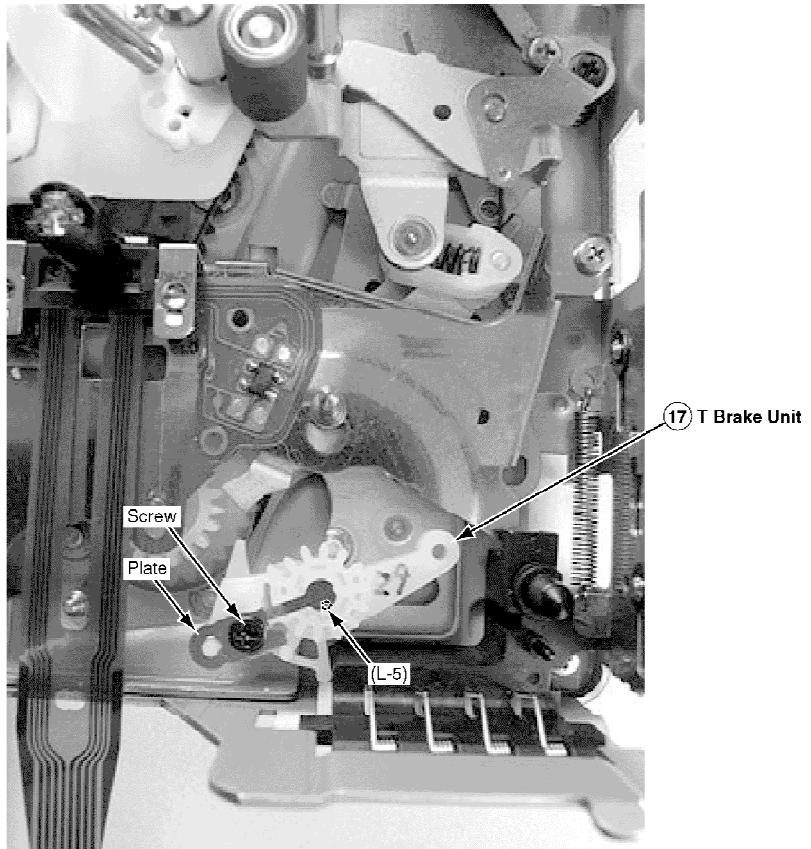
6.3.12. S Reel Table, T Reel Table

Fig. DM13



6.3.13. T Break Unit

Fig. DM15



Disassembly Notes:

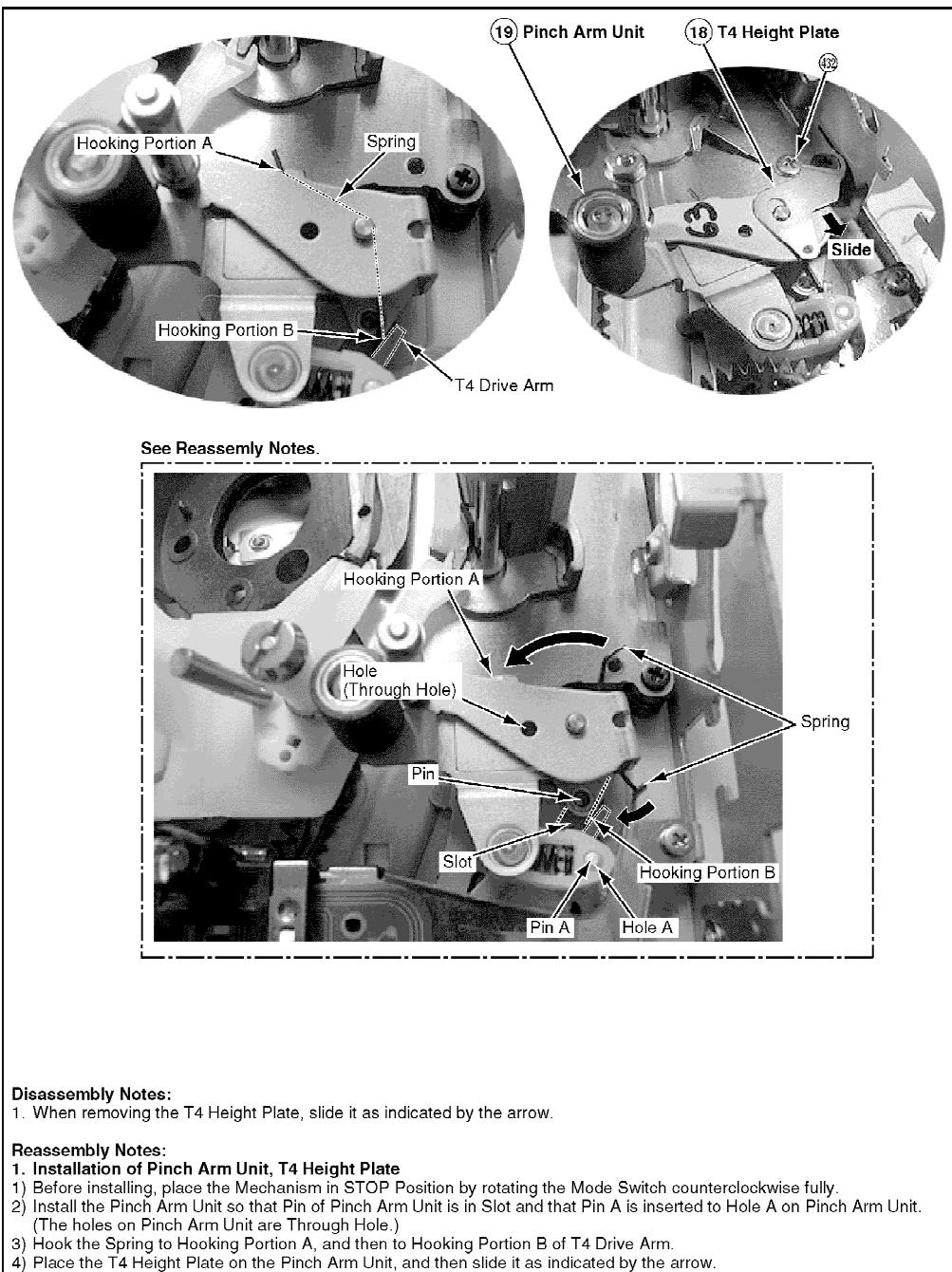
1. When removing the T Brake Unit, remove a Screw and the Plate. Then, remove the T Brake Unit while releasing the Locking Tab (L-5).
2. Use extreme care when removing the T Brake Unit.
If Locking Tab (L-5) is broken, install a new T Brake Unit.

Reassembly Notes:

1. When installing the T Brake Unit, DO NOT apply pressure to T Brake Unit Plate.

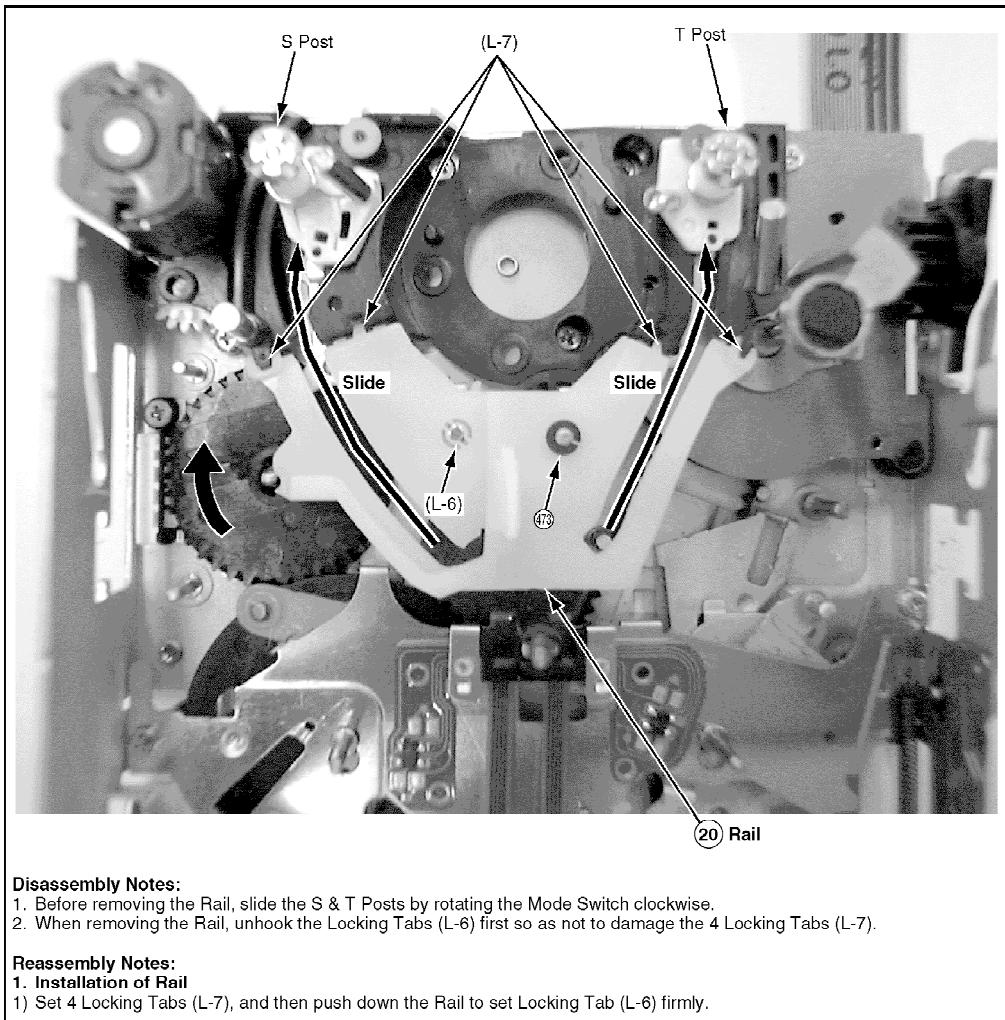
6.3.14. T4 Height Plate, Pinch Arm Unit

Fig. DM16



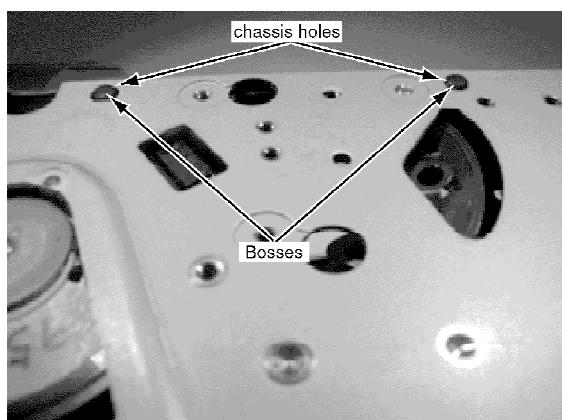
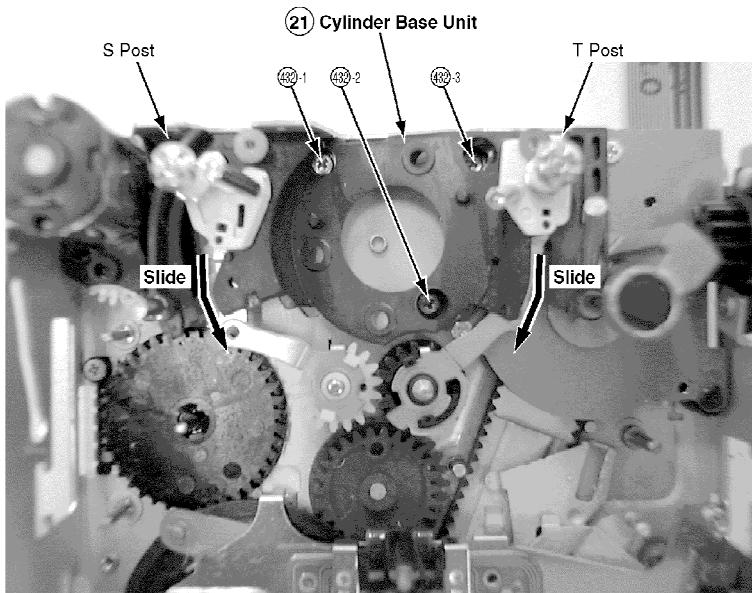
6.3.15. Rail

Fig. DM17



6.3.16. Cylinder Base Unit

Fig. DM18



Disassembly Notes:

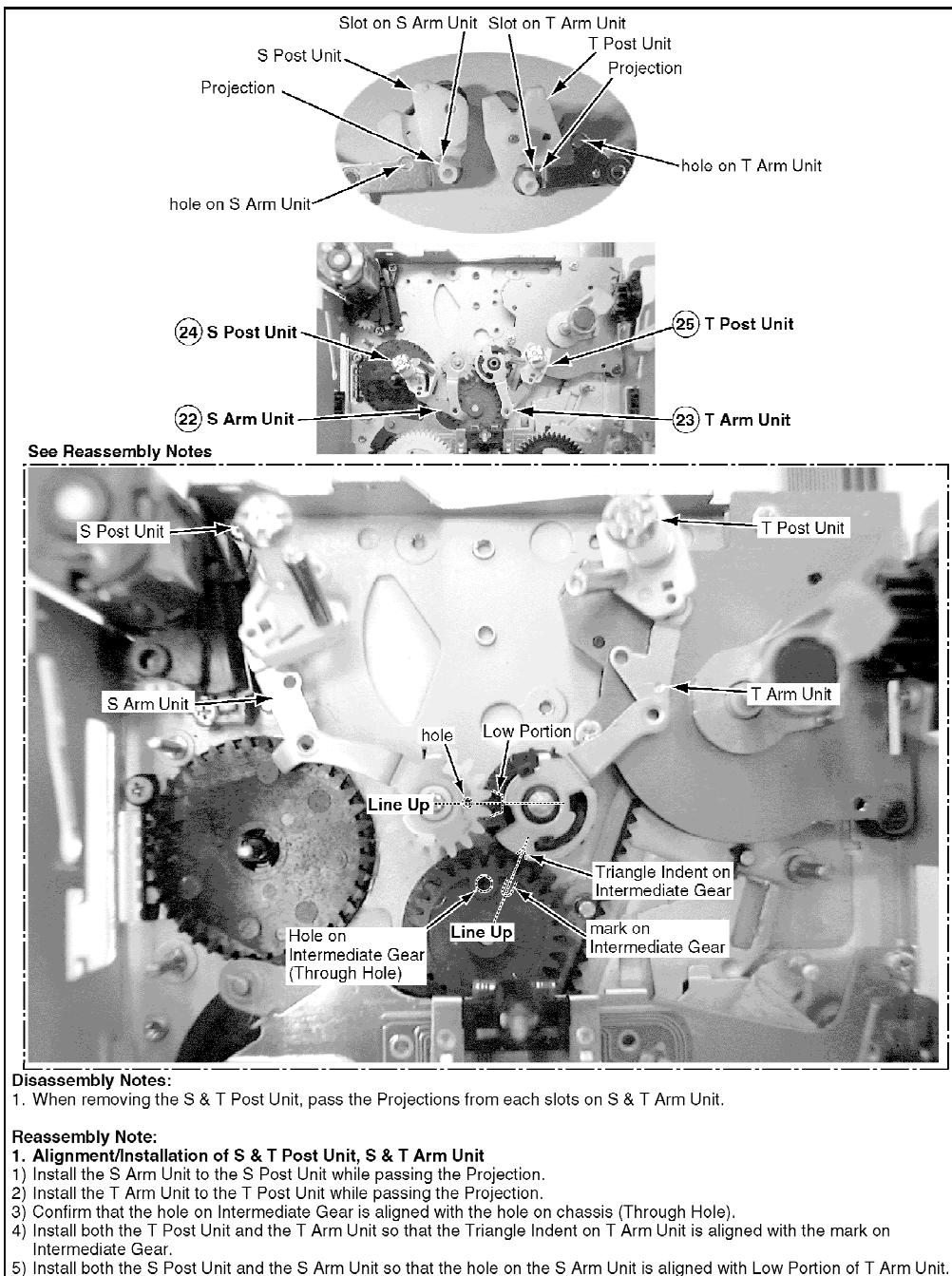
1. Slide the S & T Posts as indicated by the arrow.

Reassembly Notes:

1. Before installing the Cylinder Base Unit, confirm that the S & T Posts are lowered.
2. When installing, tighten 3 Screws 42-1, 42-2 and 42-3 in order.
3. After installing, slide the S & T Posts to insert the groove of Cylinder Base Unit.

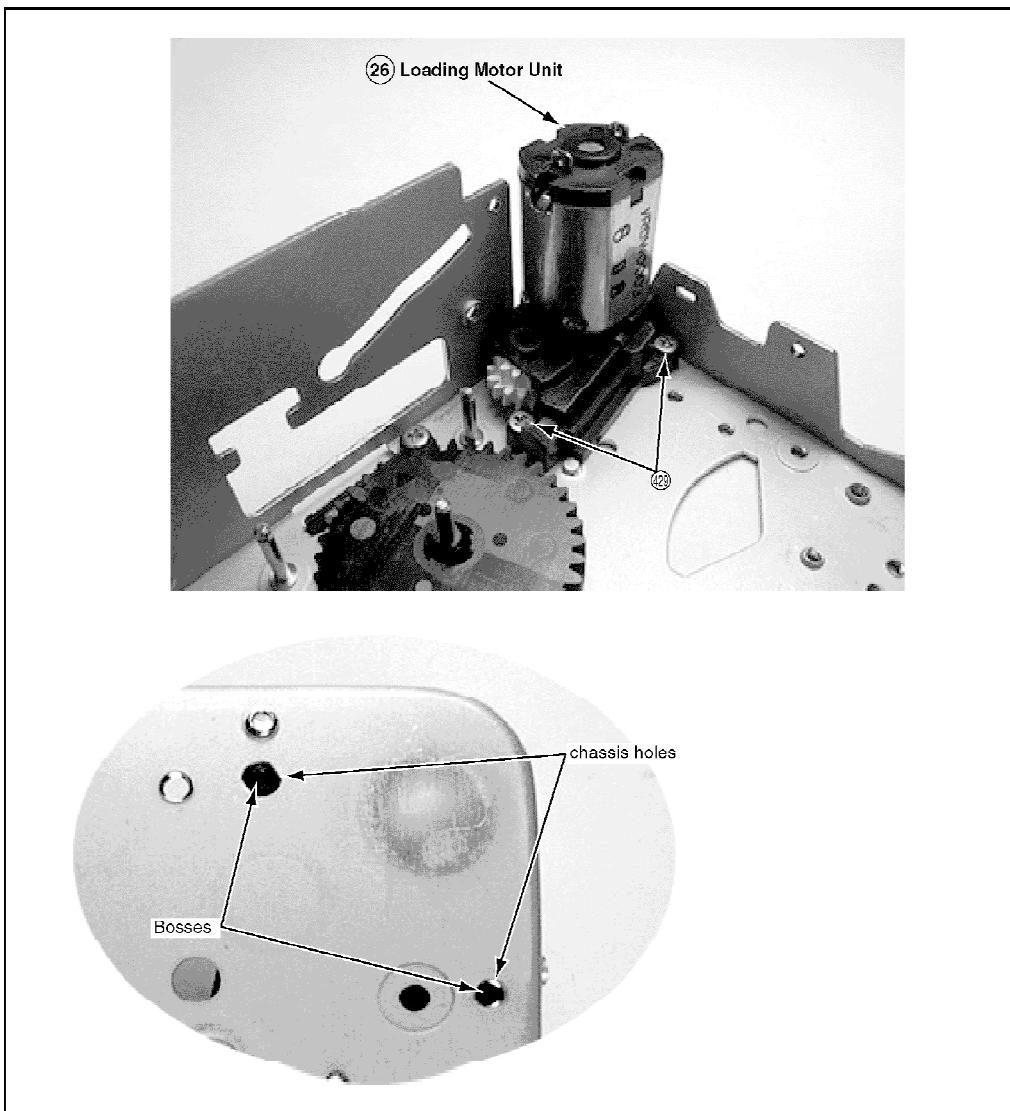
6.3.17. S & T Arm Unit, S & T Post Unit

Fig. DM19



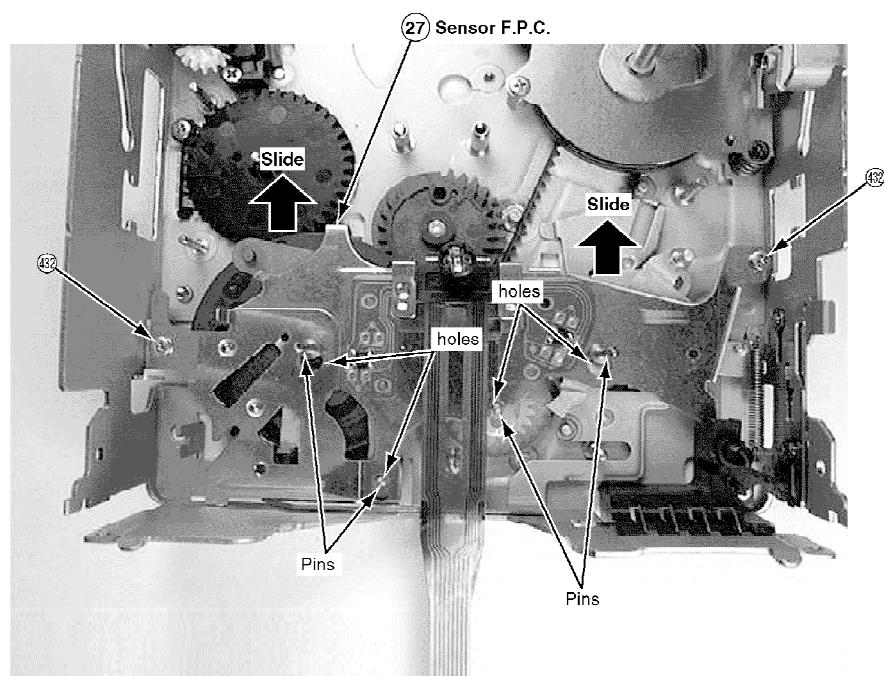
6.3.18. Loading Motor Unit

Fig. DM20



6.3.19. Sensor F.P.C.

Fig. DM21



Disassembly Notes:

1. When removing the Sensor F.P.C., slide it as indicated by the arrow.

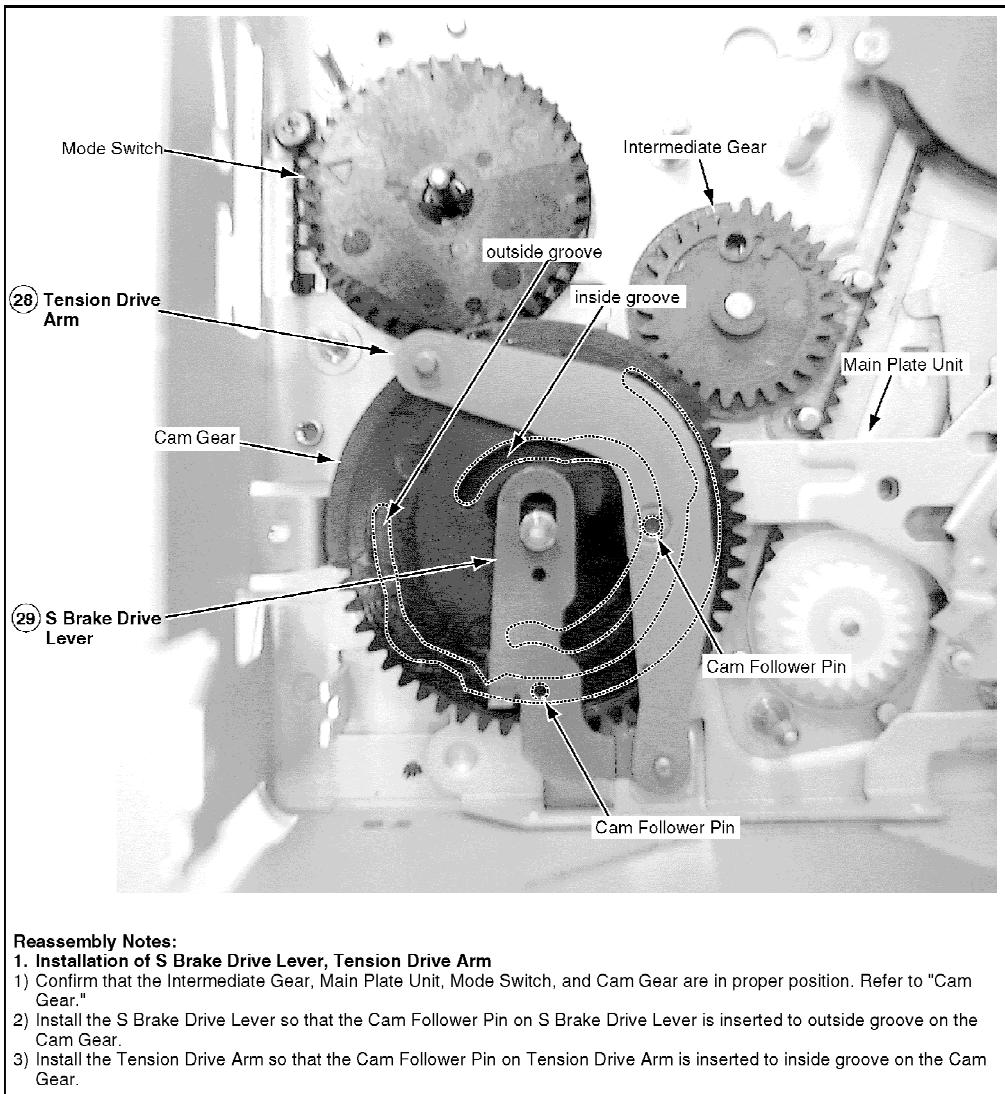
Reassembly Notes:

1. Installation of Sensor F.P.C.

- 1) Install the Sensor F.P.C. so that Pins on chassis are in holes on the Sensor F.P.C.
- 2) Slide the Sensor F.P.C., and then tighten 2 Screws **(2)**.

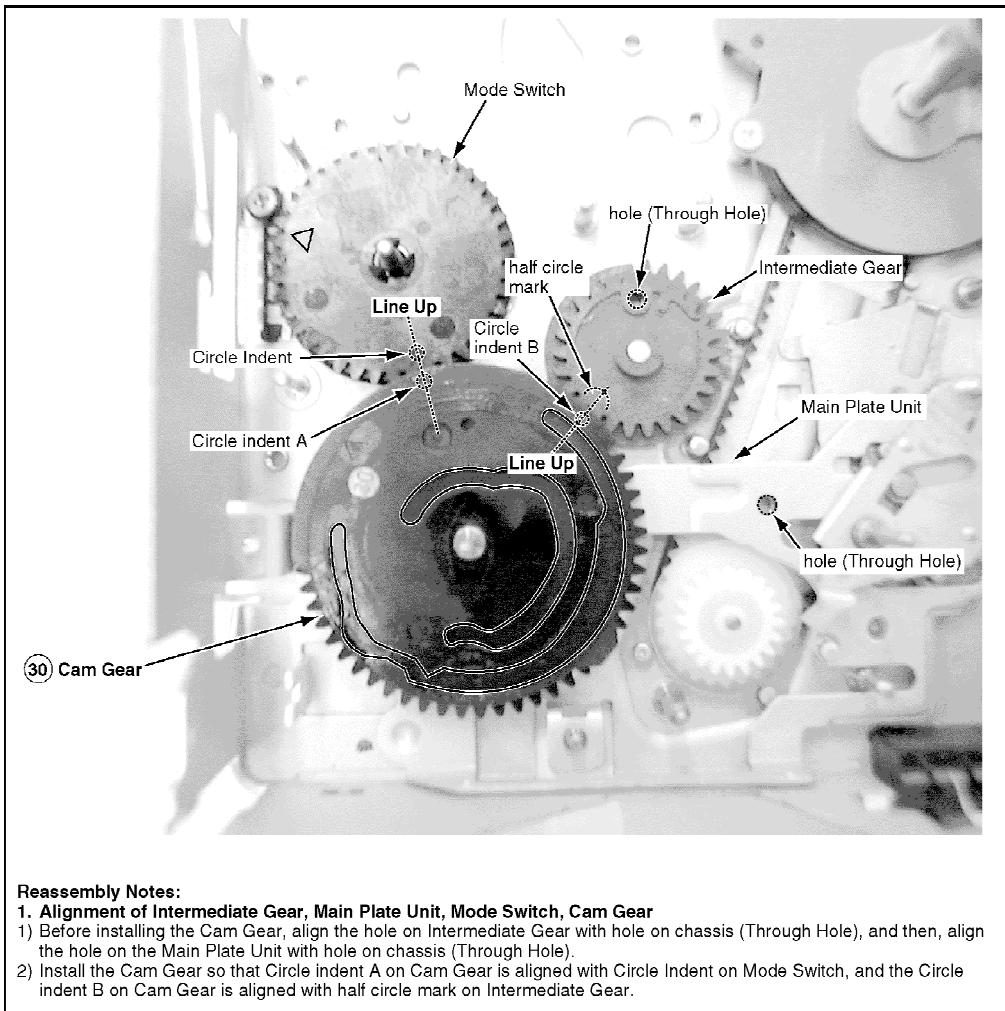
6.3.20. Tension Drive Arm, S Brake Drive Lever

Fig. DM22



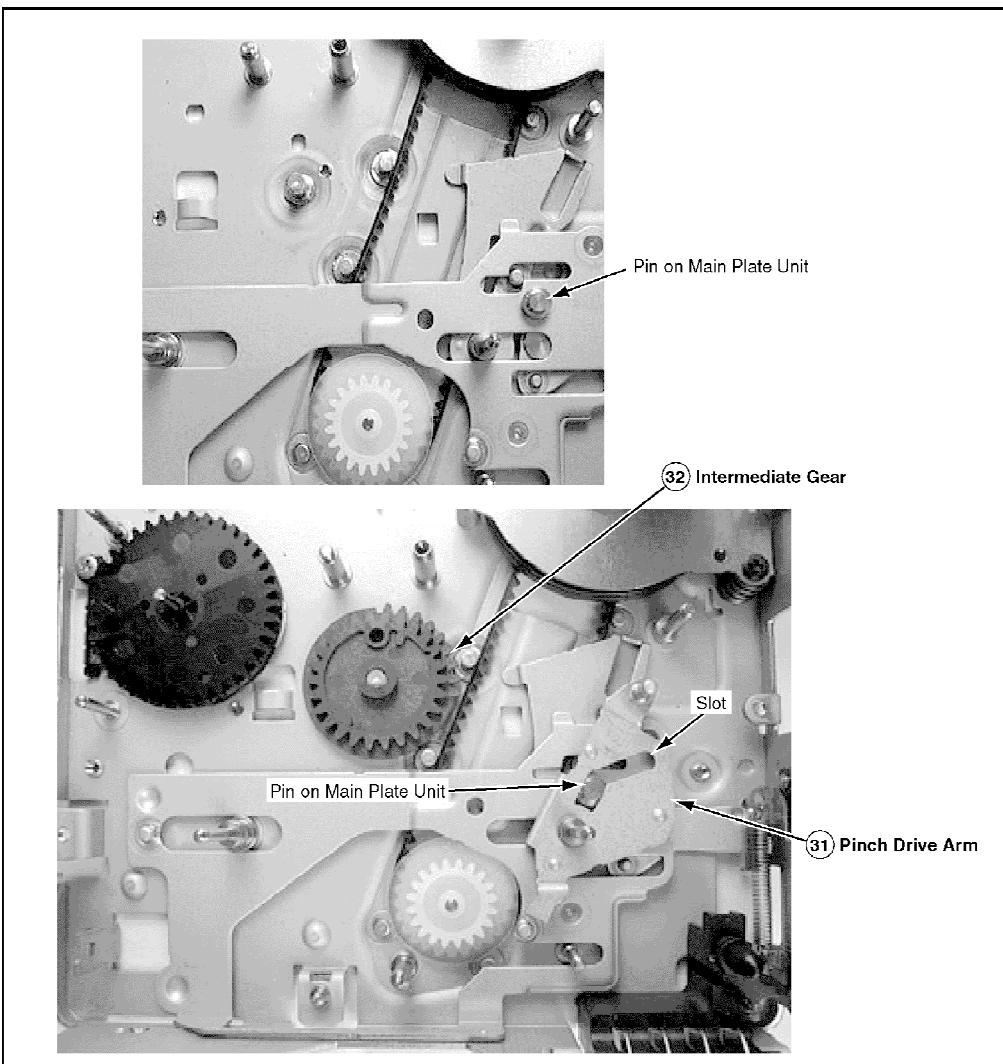
6.3.21. Cam Gear

Fig. DM23



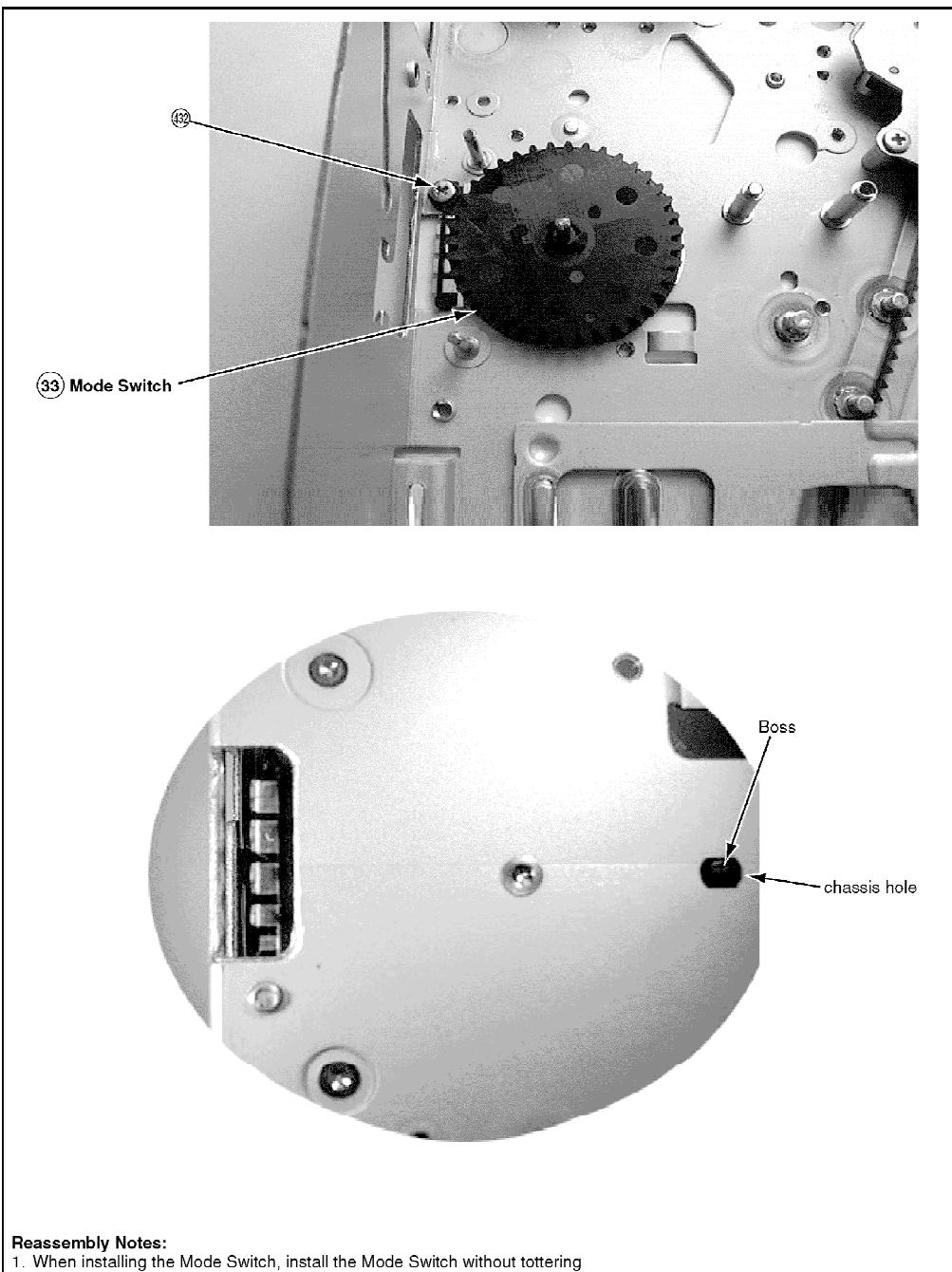
6.3.22. Pinch Drive Arm, Intermediate Gear

Fig. DM24



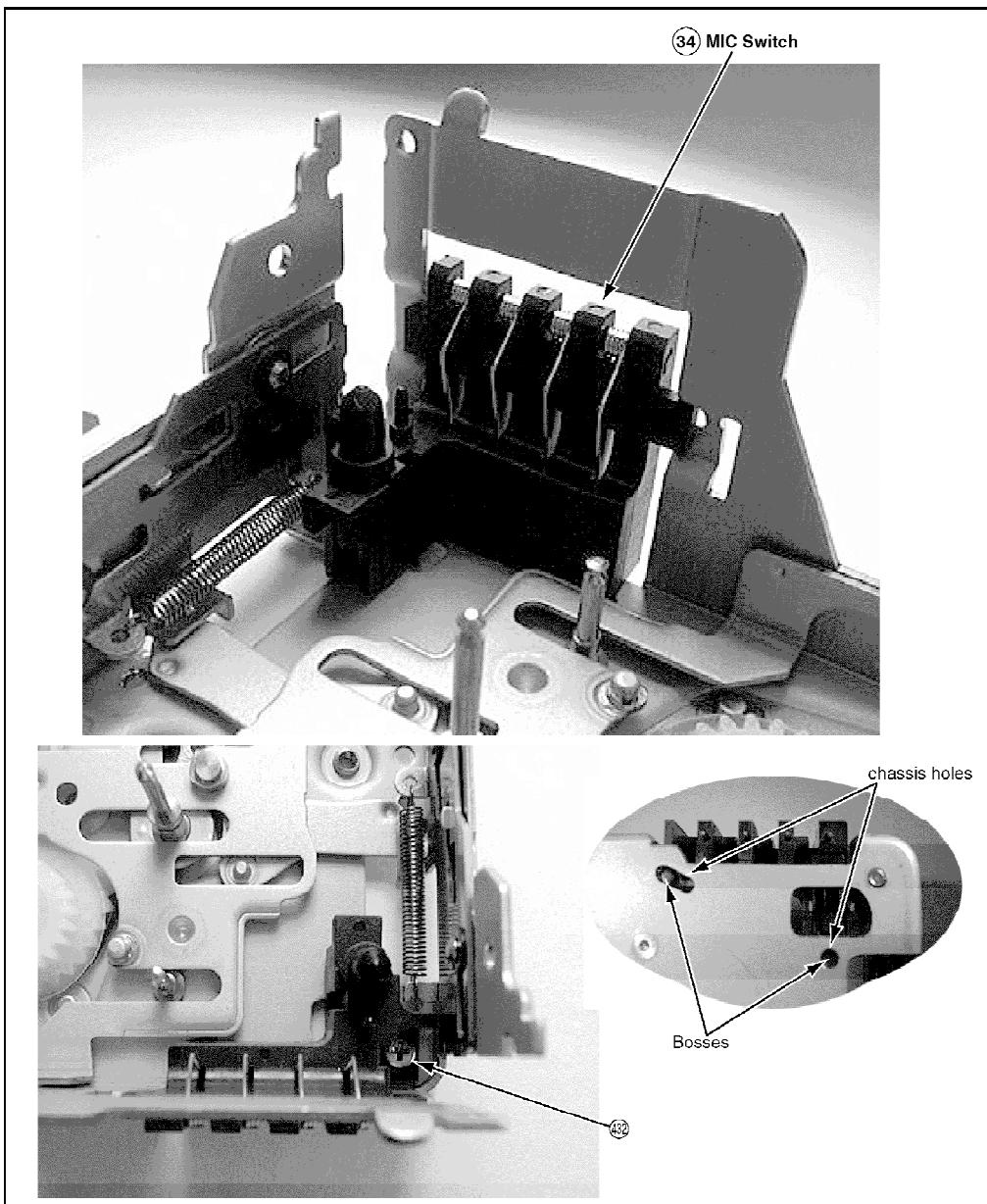
6.3.23. Mode Switch

Fig. DM25



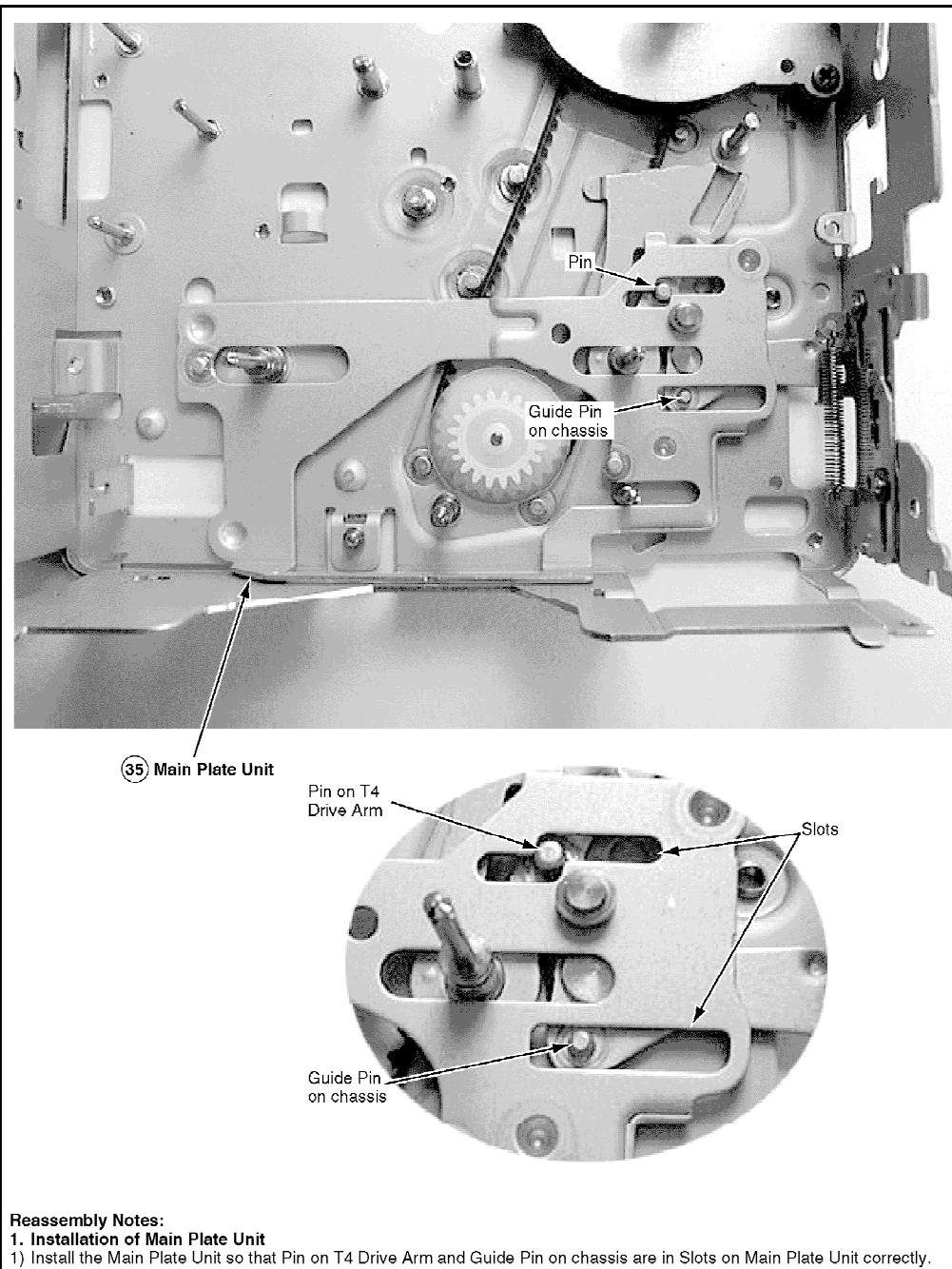
6.3.24. MIC Switch

Fig. DM26



6.3.25. Main Plate Unit

Fig. DM27



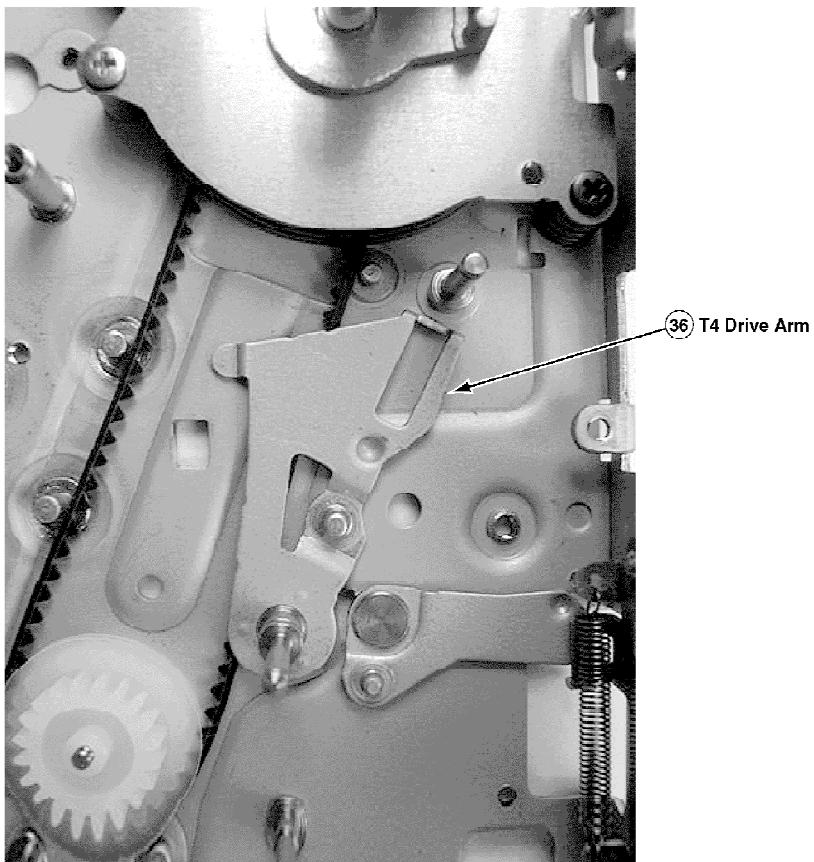
Reassembly Notes:

1. Installation of Main Plate Unit

- 1) Install the Main Plate Unit so that Pin on T4 Drive Arm and Guide Pin on chassis are in Slots on Main Plate Unit correctly.

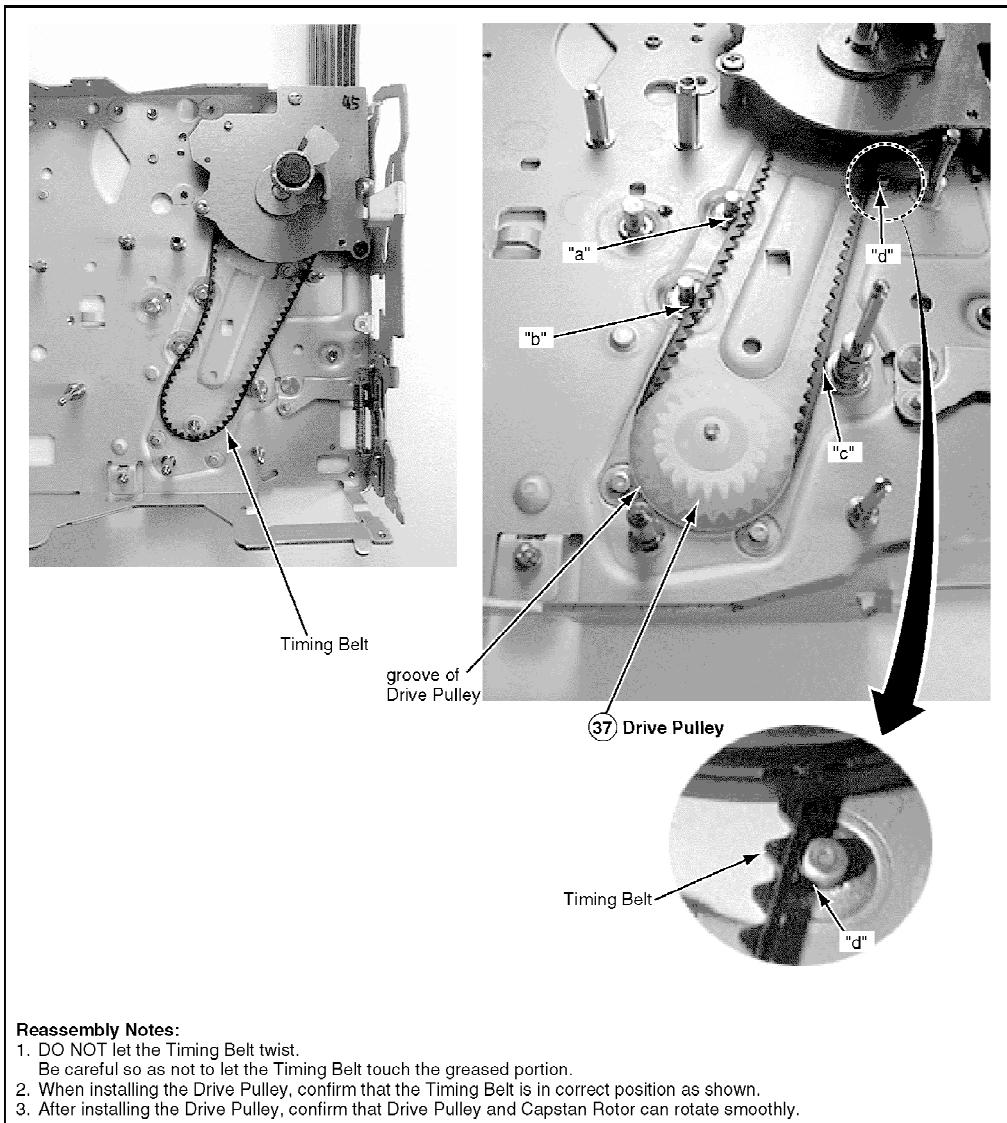
6.3.26. T4 Drive Arm

Fig. DM28



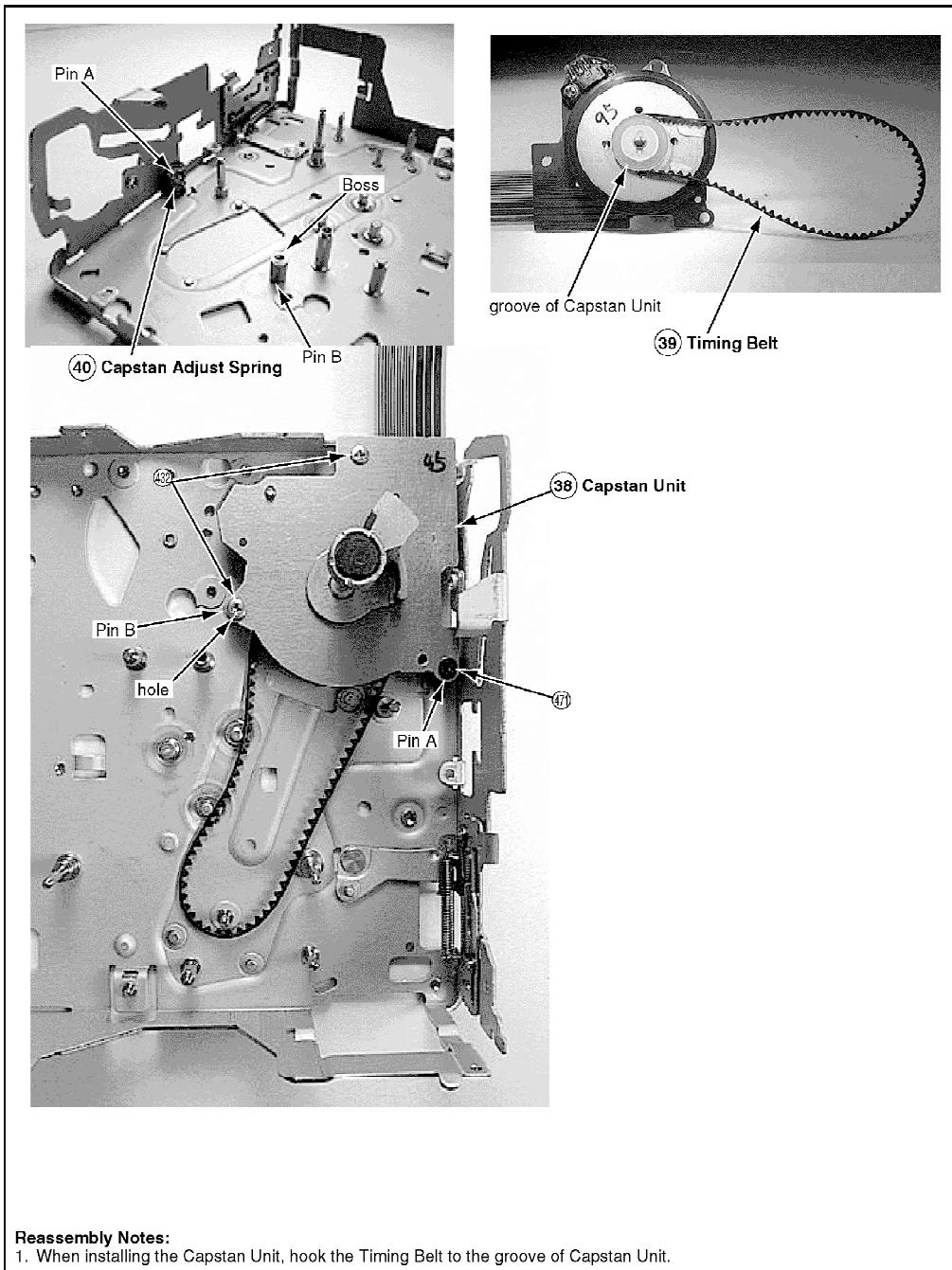
6.3.27. Drive Pulley

Fig. DM29



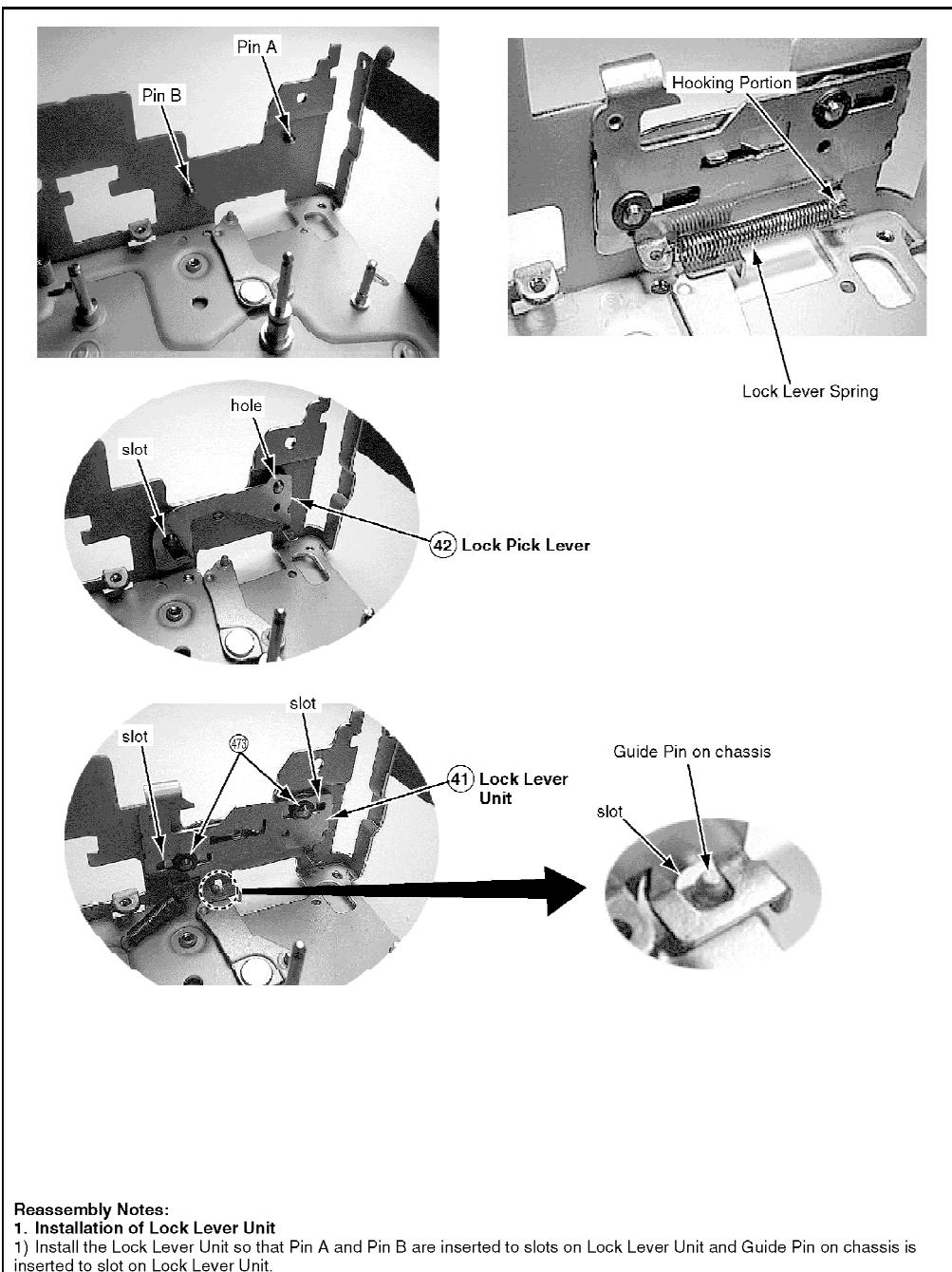
6.3.28. Capstan Unit, Timing Belt, Capstan Adjust Spring

Fig. DM30



6.3.29. Lock Lever Unit, Lock Pick Lever

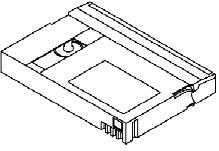
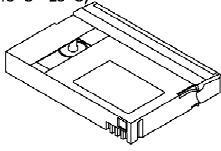
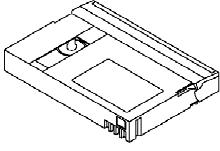
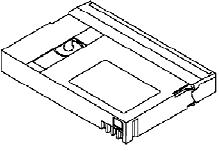
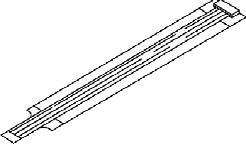
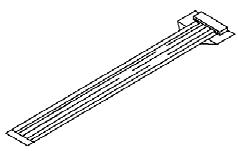
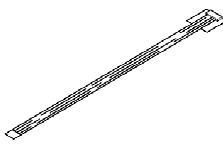
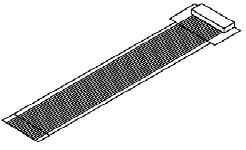
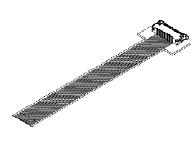
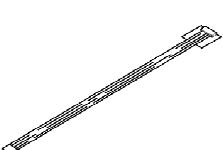
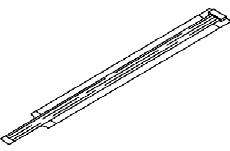
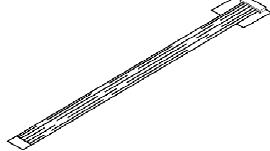
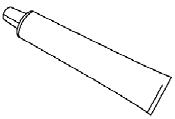
Fig. DM31

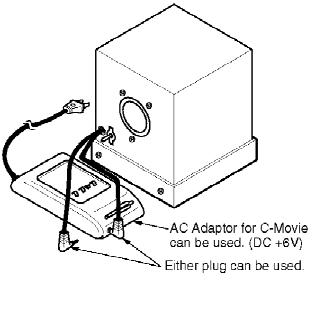
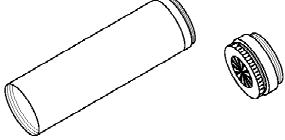
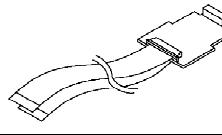
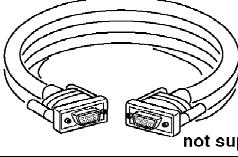
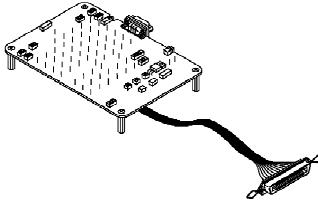


6.4. SCREWS FOR DISASSEMBLY/ASSEMBLY OF MECHANISM

7. ADJUSTMENT PROCEDURES

7.1. SERVICE FIXTURES& TOOLS

49% Transmission Tape 	VFK1217	Color Bar Standard Tape (Keeping condition: Keep at 18 °C ~ 28 °C) 	VFM3010EDS	Tape Path Alignment Tape 	LSVQ0041
DVC Head Cleaning Tape 	VFK1451	Plier for Non ZIF Connector 	LSVQ0028	Capstan Tilt Adjustment Tool 	LSVQ0020
Extension Cable 14P 	VFKW0124A	Extension Cable 22P 	VUVS0012	Extension Cable 8P 	LSUA0019
Extension Cable 40P 	LSUA0033	Extension Cable 18P 	LSUA0017	Extension Cable 10P 	LSUA0016
Extension Cable 12P 	VUVS0007	Extension Cable 20P 	LSUA0020	Grease 	VFKS0081
Grease 	LSUQ0002				

Light Box and AC Adaptor VFK1164LBX1	Infinity Lens (with Focus Chart)	VFK1164TCM02	
 (AC Adaptor is not supplied)		43mm Ring VFK1164TAR43	Color Conversion Filter (C14) VFK1164TFCT2
Post Height Adjustment Fixture LSVQ0021	Camera Connecting Cable LSUP0014		 RS232C Cable not supplied
White Chart VFK1164TFWC2	Color Bar Chart VFK1164TFCB2	Gray Scale Chart VFK1164TFGS2	 Interface Board for Electrical Adjustment LSUP0007

7.2. MECHANICAL ADJUSTMENT

7.2.1. Comparison between adjustment items and replacement parts

Adjustment Items	Replacement Parts						
TENSION POST ADJUSTMENT	<input type="radio"/>						
CAPSTAN TILT ADJUSTMENT		<input type="radio"/>					
T4 POST HEIGHT CONFIRMATION			<input type="radio"/>				
ENVELOPE OUTPUT ADJUSTMENT				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

7.2.2. TENSION POST ADJUSTMENT

Purpose:

To maintain a constant tape tension so that the tape runs with stability.

Symptom of Misadjustment:

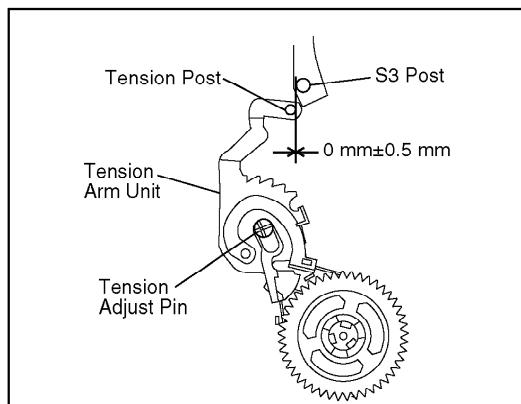
1. If the adjusted value is below the specification, the tape tension is not sufficient, thus causing a tape slack.
2. If the adjusted value is above the specification, the tape tension is too high, thus causing tape damage.

Equipment Required:

Flat Headed (-) Screwdriver (Purchase Locally)

1. Without cassette tape, place the Mechanism in the PLAY Position (the Tension Post goes to the most left side) by applying DC Power Supply (3 V) to the Loading Motor terminal.
2. Confirm that there is a space of $0 \text{ mm} \pm 0.5 \text{ mm}$ between the right edge of the Tension Post and the left edge of the S3 Post. If not, with Flat Headed (-) Screwdriver, adjust the Tension Adjust Pin so that the space of $0 \text{ mm} \pm 0.5 \text{ mm}$ is made.

Fig. T1



7.2.3. CAPSTAN TILT ADJUSTMENT

Purpose:

To adjust the tilt of the Capstan Shaft properly.

Symptom of Misadjustment:

If the tilt of the Capstan Shaft is poorly adjusted, the tape might be damaged.

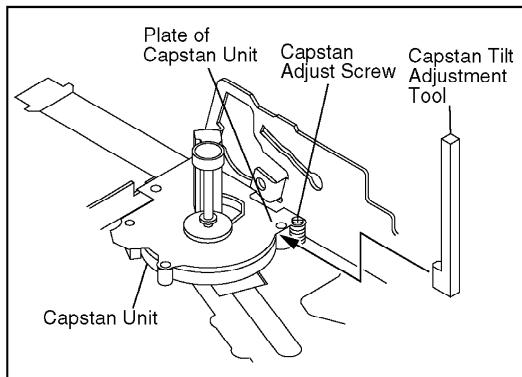
Equipment Required:

Capstan Tilt Adjustment Tool (LSVQ0020)



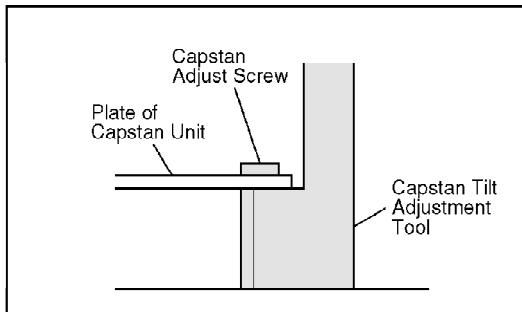
1. Set the Capstan Tilt Adjustment Tool between Capstan Unit and Chassis.

Fig. T2-1



2. Tighten the Capstan Adjust Screw so that the plate of Capstan Unit just touches to the Capstan Tilt Adjustment Tool.

Fig. T2-2



7.2.4. T4 POST HEIGHT CONFIRMATION

Purpose:

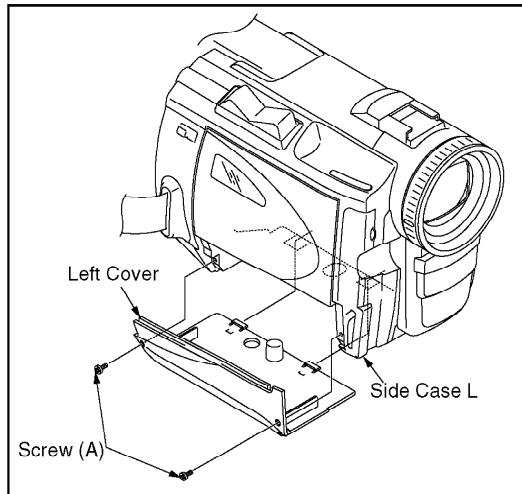
To confirm so that the height of the T4 Post is proper.

Symptom:

If the height of the T4 Post is incorrect, the tape might be damaged.

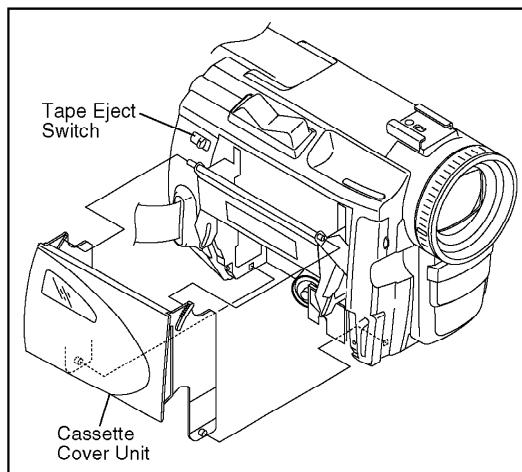
1. Remove 2 Screws (A) to remove the Left Cover.

Fig. T3-1



2. Slide the Tape Eject Switch. Then open the Cassette Cover Unit.

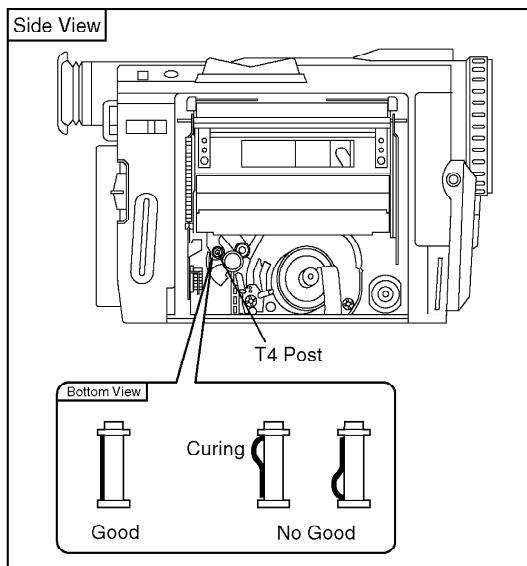
Fig. T3-2



3. Remove the Cassette Cover Unit.

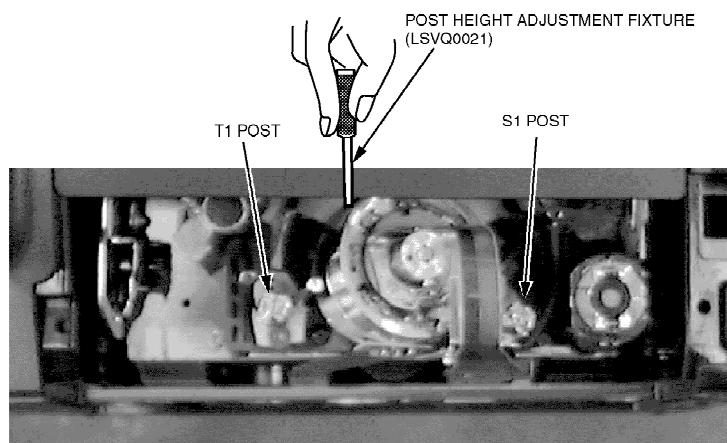
4. Confirm that the tape travels without curing at T4 post in both PLAY and REVIEW modes. If curing is apparent, replace the Pinch Arm Unit.

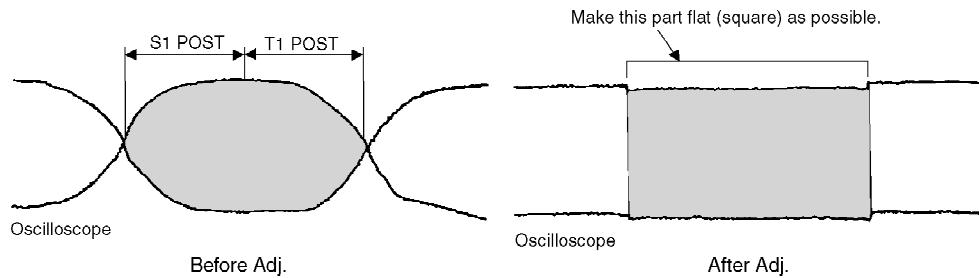
Fig. T3-3



7.2.5. ENVELOPE OUTPUT ADJUSTMENT

1. Connect the Camcorder and the Interface Board with Camera Connecting Cable.
2. Connect the oscilloscope to "Envelope TP" on the Interface Board.
3. Playback the Tape Path Alignment Tape (LSVQ0041).
4. Adjust the S1 post by turning the top of post with Post Height Adjustment Fixture (LSVQ0021) so that the left half of envelope signal becomes flat as possible.
5. Adjust the T1 post by turning the top of post with Post Height Adjustment Fixture (LSVQ0021) so that the right half of envelope signal becomes flat as possible.





Note:
After the adjustment, be sure to confirm BER (Bit Error Ratio) using EVR Adjustment Software.
If it is NG, try this adjustment once again.

7.3. ELECTRICAL ADJUSTMENT

7.3.1. INITIAL GUIDELINE

The table below shows which adjustments are necessary according to the unit parts and individual parts to be replaced. Make sure to perform these adjustments shown below as necessary.

		Replacement Parts											
		Adjustment Item											
VIDEO	Sensitivity Adjustment of Tape sensors	<input type="checkbox"/>											
	PG shifter Adjustment	<input type="checkbox"/>											
	Luminance Level Adjustment	<input type="checkbox"/>											
	Color Level Adjustment	<input type="checkbox"/>											
Camera	Hall Amp Adjustment	<input type="checkbox"/>											
	Pixel Error Interpolation Adjustment for CCD	<input type="checkbox"/>											
	Zoom tracking Adjustment	<input type="checkbox"/>											
	Iris PWM Adjustment	<input type="checkbox"/>											
	White Balance Adjustment	<input type="checkbox"/>											
LCD	PLL Adjustment	<input type="checkbox"/>											
	Pedestal Level Adjustment	<input type="checkbox"/>											
	RB Sub Pedestal Level Adjustment	<input type="checkbox"/>											
	COM Level Adjustment	<input type="checkbox"/>											
	White Balance Adjustment	<input type="checkbox"/>											
Monochrome EVF	Vertical Size Adjustment							<input type="checkbox"/>	<input type="checkbox"/>				
	Centering Adjustment							<input type="checkbox"/>	<input type="checkbox"/>				
	Brightness Adjustment							<input type="checkbox"/>	<input type="checkbox"/>				
	Focus Adjustment							<input type="checkbox"/>	<input type="checkbox"/>				
Color EVF	PLL Adjustment	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>				
	Pedestal Level Adjustment	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>				
	RB Sub Pedestal Level Adjustment	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>				
	White Balance Adjustment	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>				

Note: : Adjustment Item

7.3.2. TEST EQUIPMENT

1. Dual-Trace Oscilloscope

Voltage Range: 0.001 to 50 V/Div.

Frequency Range: DC to 50 MHz

Probes: 10:1, 1:1

2. Frequency Counter

3. Vectorscope

4. Plastic Tip Driver

5. Personal Computer

PC: IBM PC/AT or compatible

OS: MS-DOS or MS-Windows

CPU: 486 or higher

Drive: 3.5 inch 1.44 MB floppy disk drive

Port: D-Sub-9-pin Serial or D-Sub-25-pin Serial

Monitor: VGA Color

6. PC-EVR Adjustment Program (VF1D2001DV10)

Note:

Ask latest version when placing order for PC-EVR Adjustment program.

7. Interface Board (LSUP0007)

8. RS-232C Cable

9. Camera Connecting Cable (LSUP0014)

10. 49% Transmission Tape (VFK1217)

11. Color Bar Standard Tape (VFM3010EDS)

(Keeping condition: Keep at 18°C ~ 28°C)

12. Gray Scale Chart (VFK1164TFCGS2)

13. White Chart (VFK1164TFWC2)

14. Color Bar Chart (VFK1164TFCB2)

15. Light Box and AC Adaptor (for VHS-C)

16. Infinity Lens (with Focus Chart) (VFK1164TCM02)

17. AC Adaptor (for DVC)

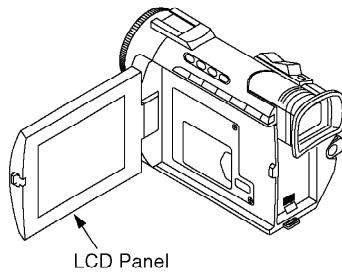
18. 43 mm Attachment Ring (VFK1164TAR43)

19. Color Conversion Filter (C14) (VFK1164TFCT2)

7.3.3. PREPARATION

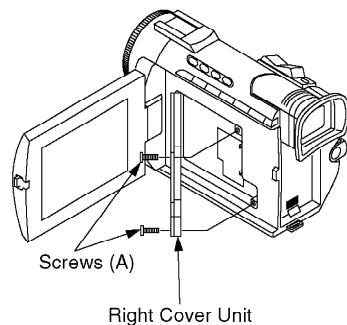
1. Open the LCD panel.

Fig. E1-1



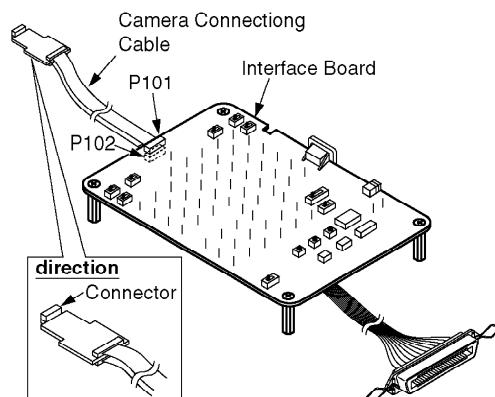
2. Remove Screws (A) and open the Right Cover Unit from the unit.

Fig. E1-2



3. Connect the Camera Connecting Cable to P101 and P102 on the Interface Board.

Fig. E1-3

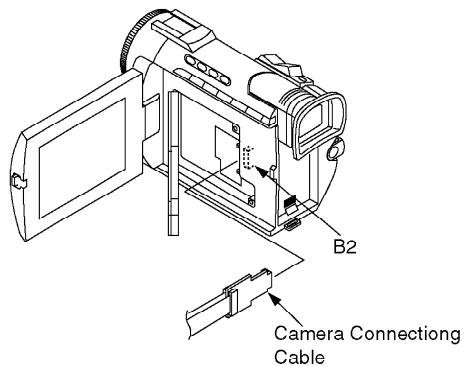


Note:

Install Camera Connecting Cable so that the Connector is upward as shown.

4. Connect the Camera Connecting Cable to B2 on the unit.

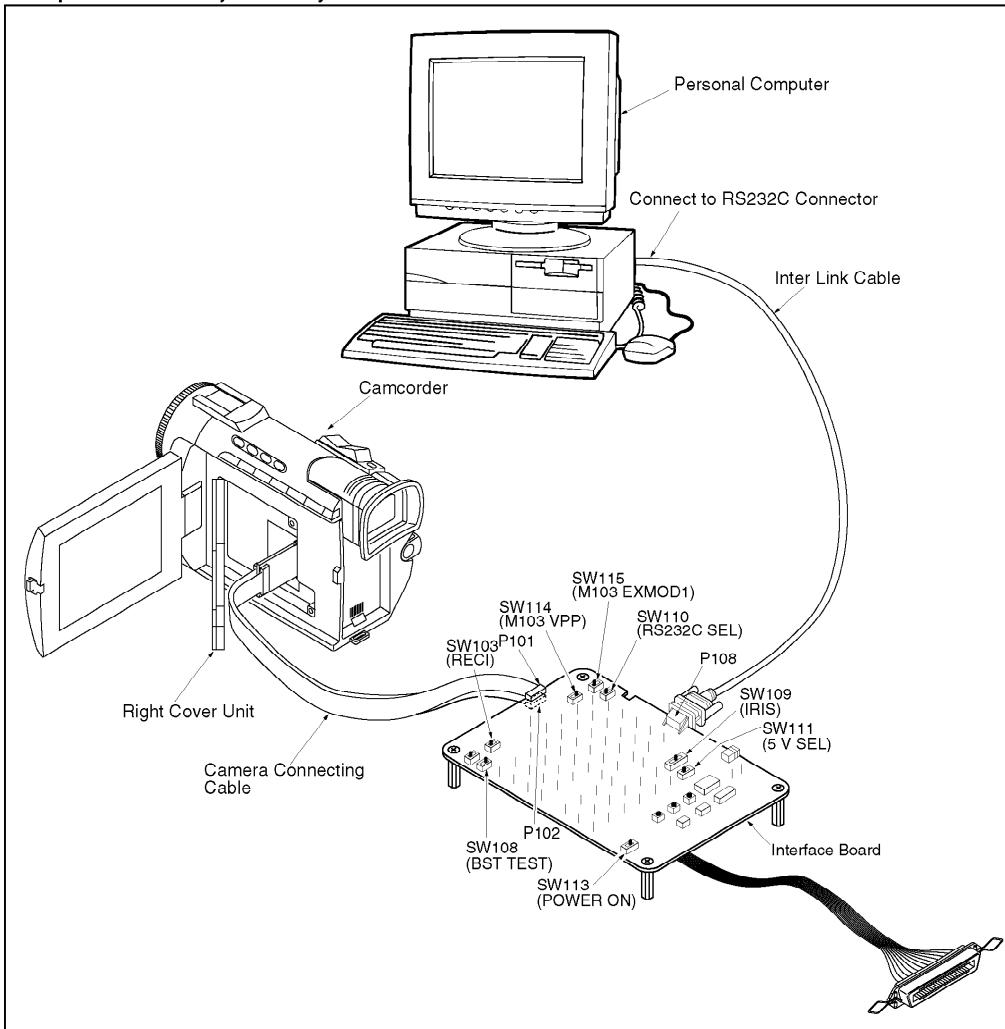
Fig. E1-4



- 5. Connect the AC Adaptor to the unit.**
- 6. Connect the P108 on the Interface Board to RS232C of the PC with Inter Link Cable.**
- 7. Set the SW115 (M103 EXMOD1) on the Interface Board to "GND."**
- 8. Set the SW110 (RS232C SEL) on the Interface Board to "DSUB."**
- 9. Set the SW114 (M103 VPP) on the Interface Board to "3 V."**
- 10. Set the SW103 (RECI) on the Interface Board to "OFF."**
- 11. Set the SW108 (BST TEST) on the Interface Board to "OFF."**
- 12. Set the SW109 (IRIS) on the Interface Board to center.**
- 13. Set the SW111 (5 V SEL) on the Interface Board to "CAM 5 V."**
- 14. Set the SW113 (POWER ON) on the Interface Board to "NORM."**
- 15. Power on the unit.**

Fig. E1-5

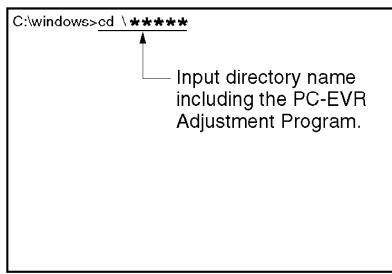
<Computer Assisted Adjustment System>



7.3.4. SET UP OF PC-EVR ADJUSTMENT PROGRAM

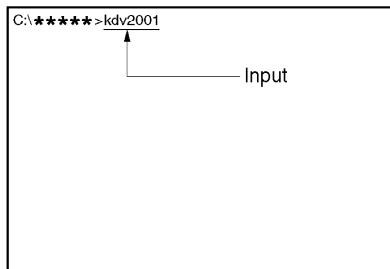
- 1. Turn on the Personal Computer.**
- 2. Restart it in MS-DOS mode.**
- 3. Change the current directory to the one including the PC-EVR Adjustment Program and start up the PC-EVR Adjustment Program as follows.**
 - A. Set MS-DOS to US mode.**
 - B. Input "cd *****," and then press "ENTER" key to change the directory to the one including the PC-EVR Adjustment Program.**

Fig. E2-1



C. Input "kdv2001," and then press "ENTER" key to start up the PC-EVR Adjustment Program.

Fig. E2-2



"Select Model Number Menu" will be displayed.

4. Select the model number which you are servicing, and then press "Enter" key. The starting display will be displayed.
5. Perform set up items according to menu until "Main Menu" is displayed.

7.3.5. HOW TO USE MAIN MENU

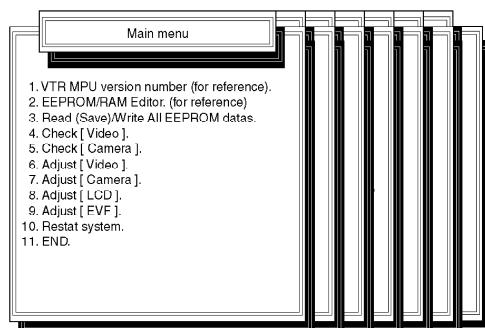
7.3.5.1. Main Menu

Select a Sub Menu to check, adjust the unit. by pressing (UP/DOWN) Key in Main Menu. Then, press "ENTER" Key. The Sub Menu will be displayed.

Note:

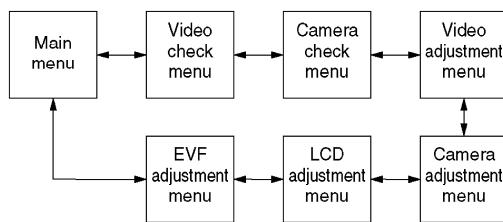
Menu 6 through 9 are needed for adjustment.

Fig. E3-1



With using   key, you can also see sub menu in order.

Fig. E3-2



Note:

The adjusted data is stored to EEPROM IC after each adjustment.

7.3.6. VR ADJUSTMENT

7.3.6.1. MONOCHROME EVF SECTION

Note:

Camcorder need NOT to be powered off and on after each adjustment procedure.

7.3.6.1.1. Preparation

1. Before adjusting the Monochrome EVF, Camera section and VCR section adjustments must be completely adjusted.
2. Remove the EVF Base Holder, the Eye Cap Unit, the EVF Case A Unit and the EVF Case B Unit to gain access to VRs on the EVF C.B.A. (Refer to "Disassembly/Assembly Procedures of Cabinet.")

7.3.6.2. Vertical Size Adjustment

Purpose:

To set the standard vertical size on the EVF picture.

Symptom of Misadjustment:

The vertical EVF picture size will be abnormal.

Test Point :

Adjustment :

VR901 (EVF C.B.A.)

Specification :

Best Vertical size

Input :

Color Bar Standard Tape (VFM3010EDS)

Mode :

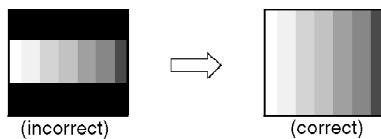
PB

Equipment :

Adjustment Procedure:

- 1. Playback the Color Bar Standard Tape.**
- 2. Adjust the VERTICAL SIZE CONTROL (VR901) so that the vertical picture size becomes correct.**

Fig. E4-1



7.3.6.3. Centering Adjustment

Purpose:

To set the optimum picture position on the EVF picture.

Symptom of Misadjustment:

The EVF picture will be shifted.

Test Point :

Adjustment :

Deflection Yoke Centering Magnet

Specification :

The picture position becomes centered on the EVF picture

Input :

Color Bar Standard Tape (VFM3010EDS)

Mode :

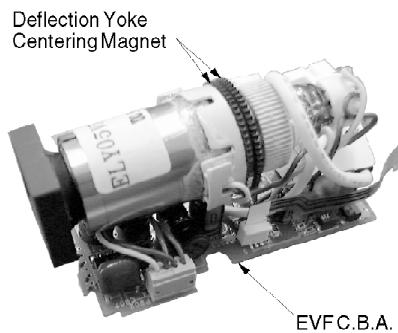
PB

Equipment :

Adjustment Procedure:

- 1. Playback the Color Bar Standard Tape.**
- 2. Adjust the Deflection Yoke Centering Magnet by turning them so that the picture is centered in the Viewfinder.**

Fig. E4-2



7.3.6.4. Brightness Adjustment

Purpose:

To set the optimum EVF brightness level.

Symptom of Misadjustment:

The EVF picture will be too white or black.

Test Point :

Adjustment :

VR903 (EVF C.B.A.)

Specification :

Natural Gradation

Input :

Color Bar Standard Tape (VFM3010EDS)

Mode :

PB

Equipment :

Adjustment Procedure:

- 1. Playback the Color Bar Standard Tape.**
- 2. Adjust the BRIGHTNESS CONTROL (VR903) so that the brightness in the Viewfinder becomes natural gradation.**

7.3.6.5. Focus Adjustment

Purpose:

To set the optimum focus on the EVF picture.

Symptom of Misadjustment:

The EVF picture will be out of focus.

Test Point :

Adjustment :

VR902 (EVF C.B.A.)

Specification :

Optimum focus

Input :

Color Bar Standard Tape (VFM3010EDS)

Mode :

PB

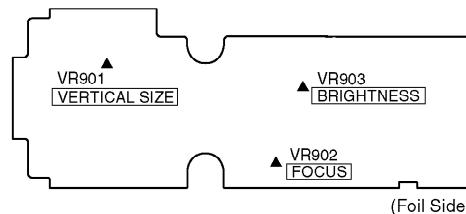
Equipment :

Adjustment Procedure:

- 1. Playback the Color Bar Standard Tape.**
- 2. Adjust the FOCUS CONTROL (VR902) to optimum focus in the Viewfinder.**

7.4. TEST POINTS AND CONTROL LOCATION

EVF C.B.A. (For model with Monochrome EVF)



8. SCHEMATIC DIAGRAMS

8.1. SCHEMATIC DIAGRAM& CIRCUIT BOARD LAYOUT NOTES/ ABBREVIATION

8.2. MAIN SCHEMATIC DIAGRAMS

8.3. POWER SCHEMATIC DIAGRAMS

8.4. MICROPHONE UNIT/FRONT SCHEMATIC DIAGRAM

8.5. LCD SCHEMATIC DIAGRAMS

8.6. EVF SCHEMATIC DIAGRAM

(Model: PV-DV101)

8.7. COLOR EVF SCHEMATIC DIAGRAM

(Model: PV-DV401)

8.8. JACK/ S-JACK SCHEMATIC DIAGRAMS

8.9. INTERCONNECTION SCHEMATIC DIAGRAM

8.10. VOLTAGE CHART

9. CIRCUIT BOARD LAYOUT

9.1. MAIN C.B.A.

9.2. POWER C.B.A.

9.3. MICROPHONE UNIT/FRONT C.B.A.

9.4. EVF C.B.A.

(Model: PV-DV101)

9.5. COLOR EVF C.B.A.

(Model: PV-DV401)

9.6. LCD C.B.A.

9.7. JACK/ S-JACK C.B.A.

10. BLOCK DIAGRAMS

10.1. CCD DRIVE BLOCK DIAGRAM

10.2. VIDEO SIGNAL PROCESS I BLOCK DIAGRAM

10.3. VIDEO SIGNAL PROCESS II BLOCK DIAGRAM

10.4. ANALOG VIDEO I/F BLOCK DIAGRAM

10.5. AUDIO BLOCK DIAGRAM

10.6. SYSTEM CONTROL BLOCK DIAGRAM

10.7. SERVO BLOCK DIAGRAM

10.8. AF BLOCK DIAGRAM

10.9. LCD BLOCK DIAGRAM

10.10. EVF BLOCK DIAGRAM

(Model: PV-DV101)

10.11. COLOR EVF BLOCK DIAGRAM

(Model: PV-DV401)

10.12. POWER SUPPLY BLOCK DIAGRAM

11. EXPLODED VIEWS

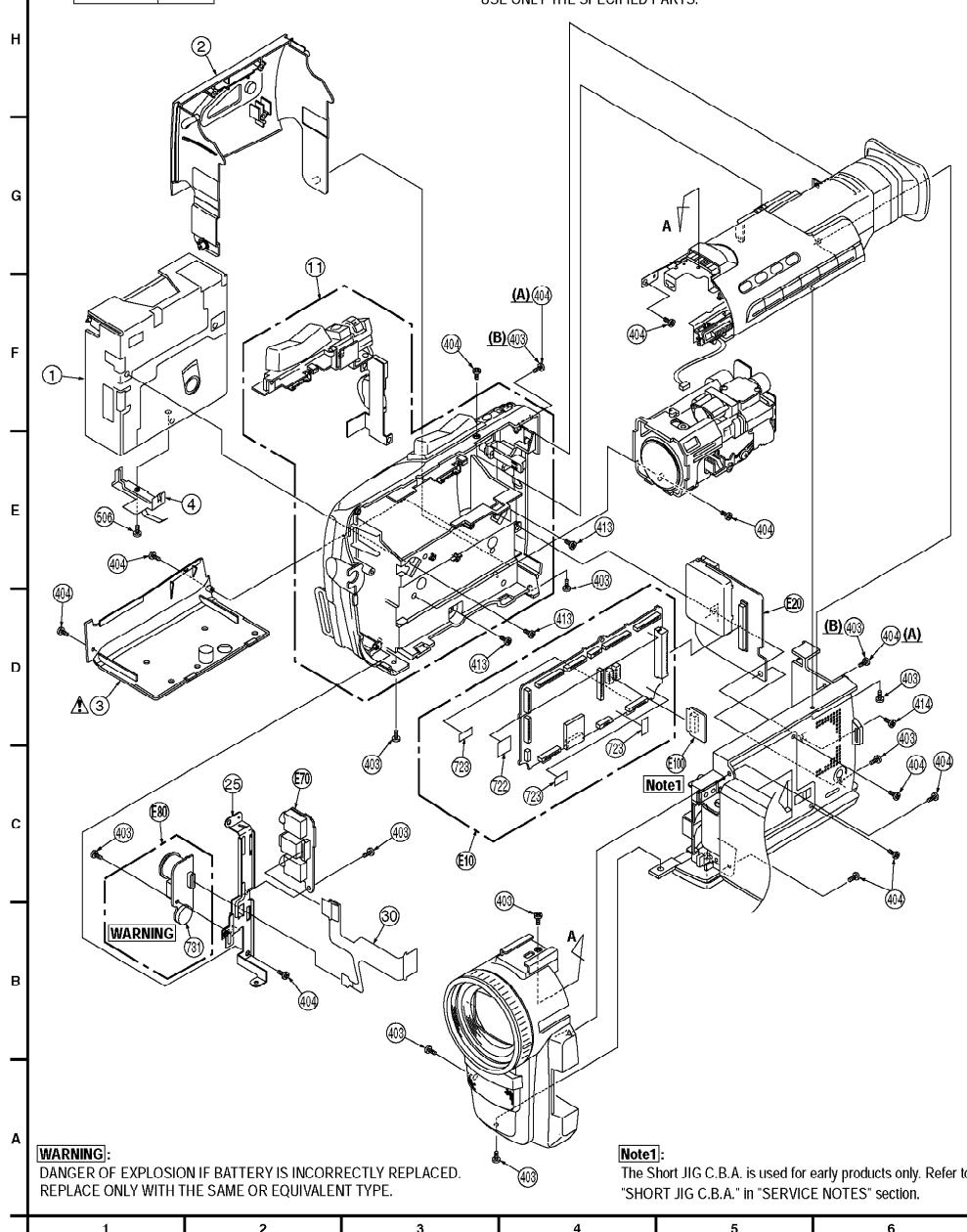
11.1. MAIN PARTS SECTION

1 MAIN PARTS SECTION

Note: Parts with no Ref. No. in "EXPLODED VIEW" are not supplied.
And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



11.2. TOP CASE AND EVF SECTION (Model: PV-DV101)

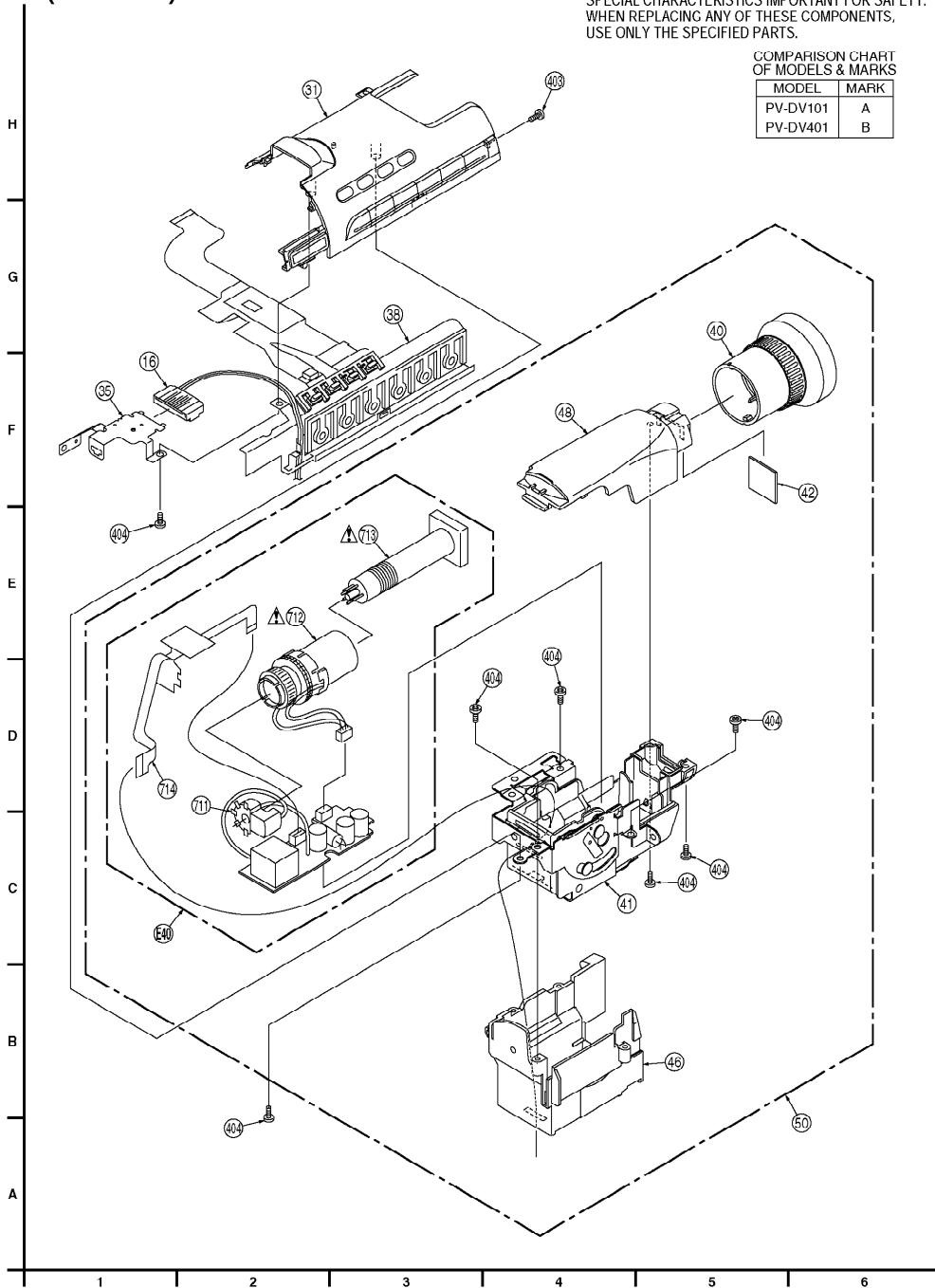
② TOP CASE AND EVF SECTION (Model: A)

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B



11.3. TOP CASE AND COLOR EVF SECTION (MODEL: PV-DV401)

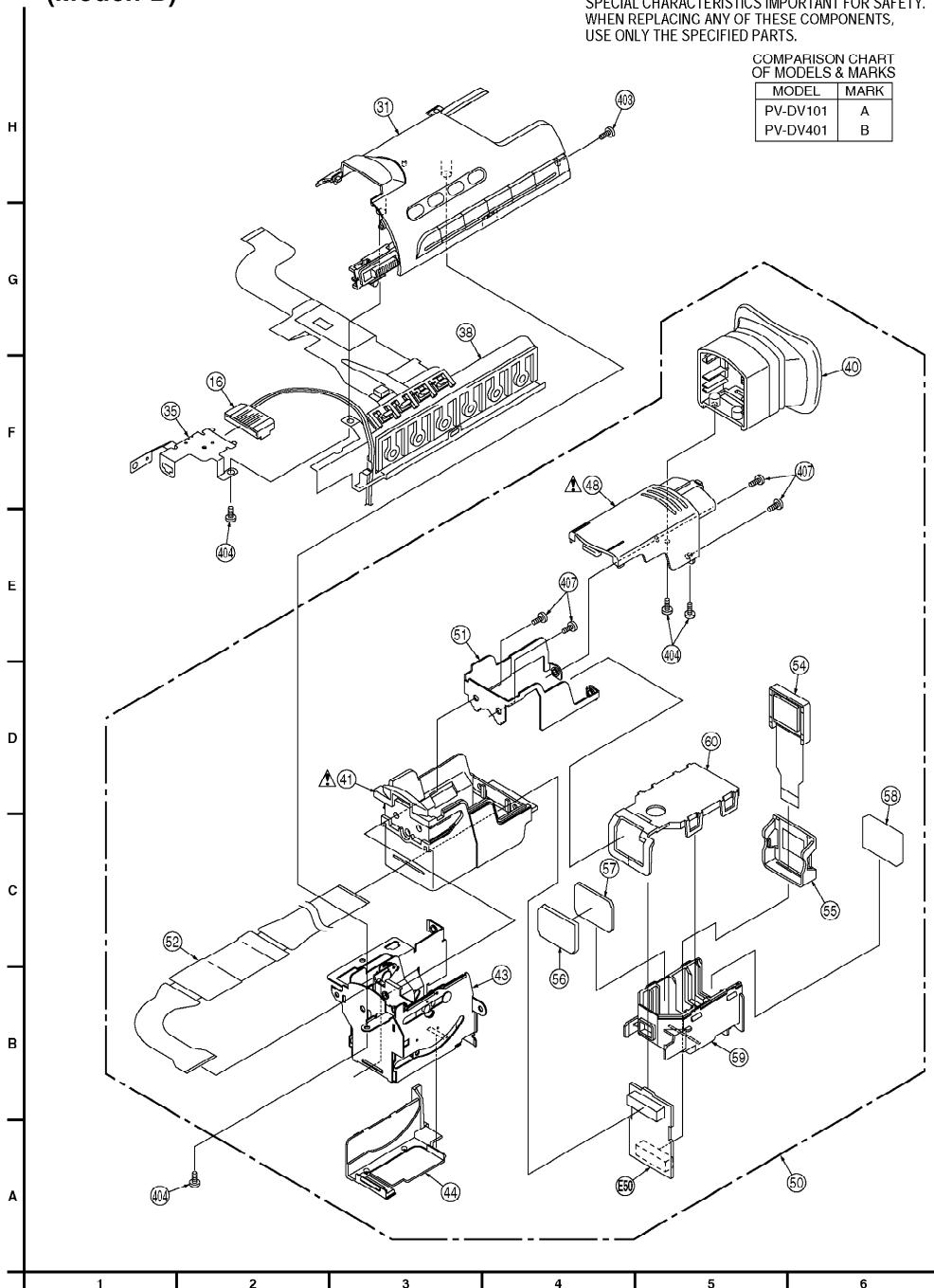
② TOP CASE AND COLOR EVF SECTION (Model: B)

IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B



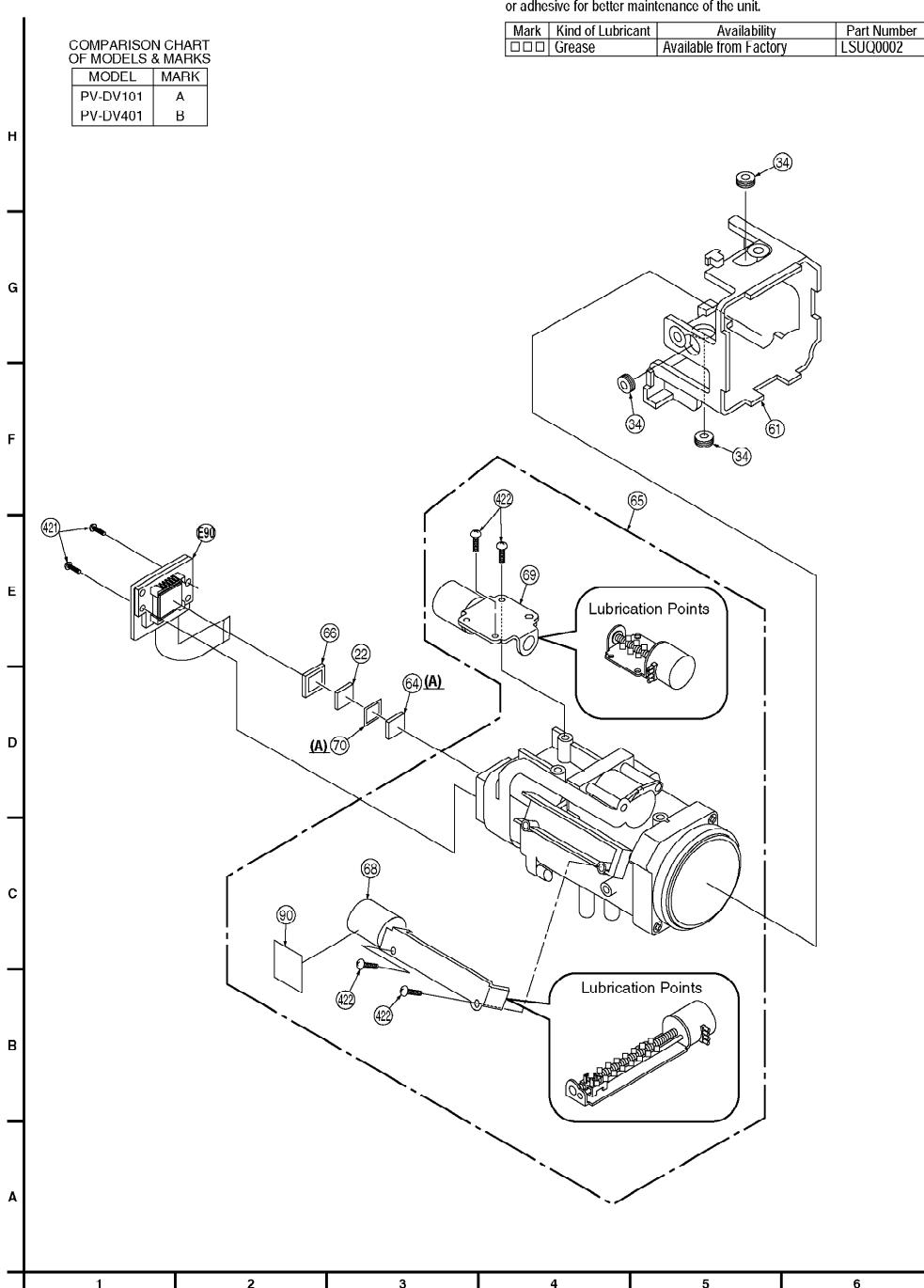
11.4. LENS SECTION

③ LENS SECTION

LUBRICATION POINTS

When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
□□□	Grease	Available from Factory	LSUQ0002

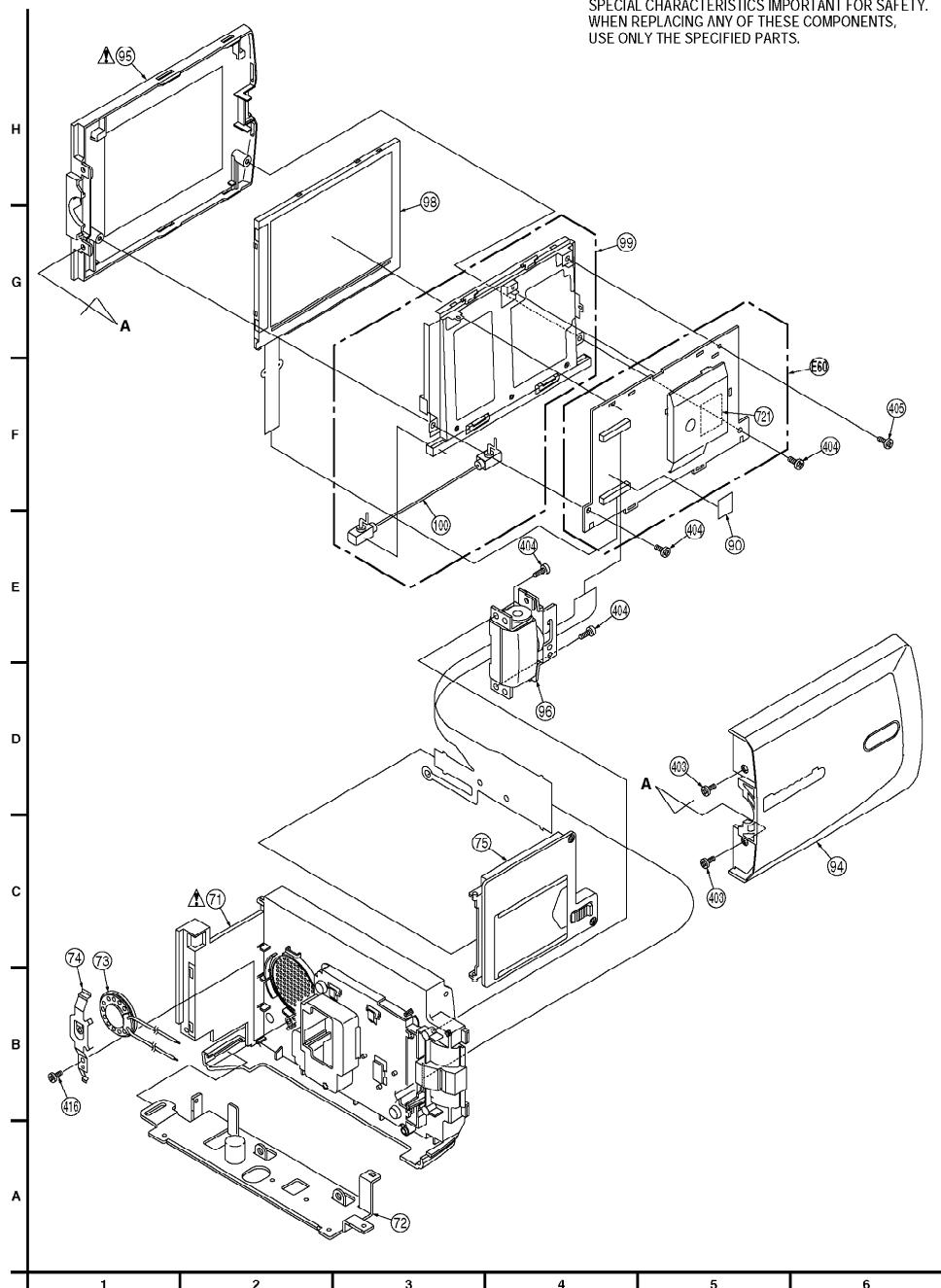


11.5. SIDE CASE R AND LCD SECTION

④ SIDE CASE R AND LCD SECTION

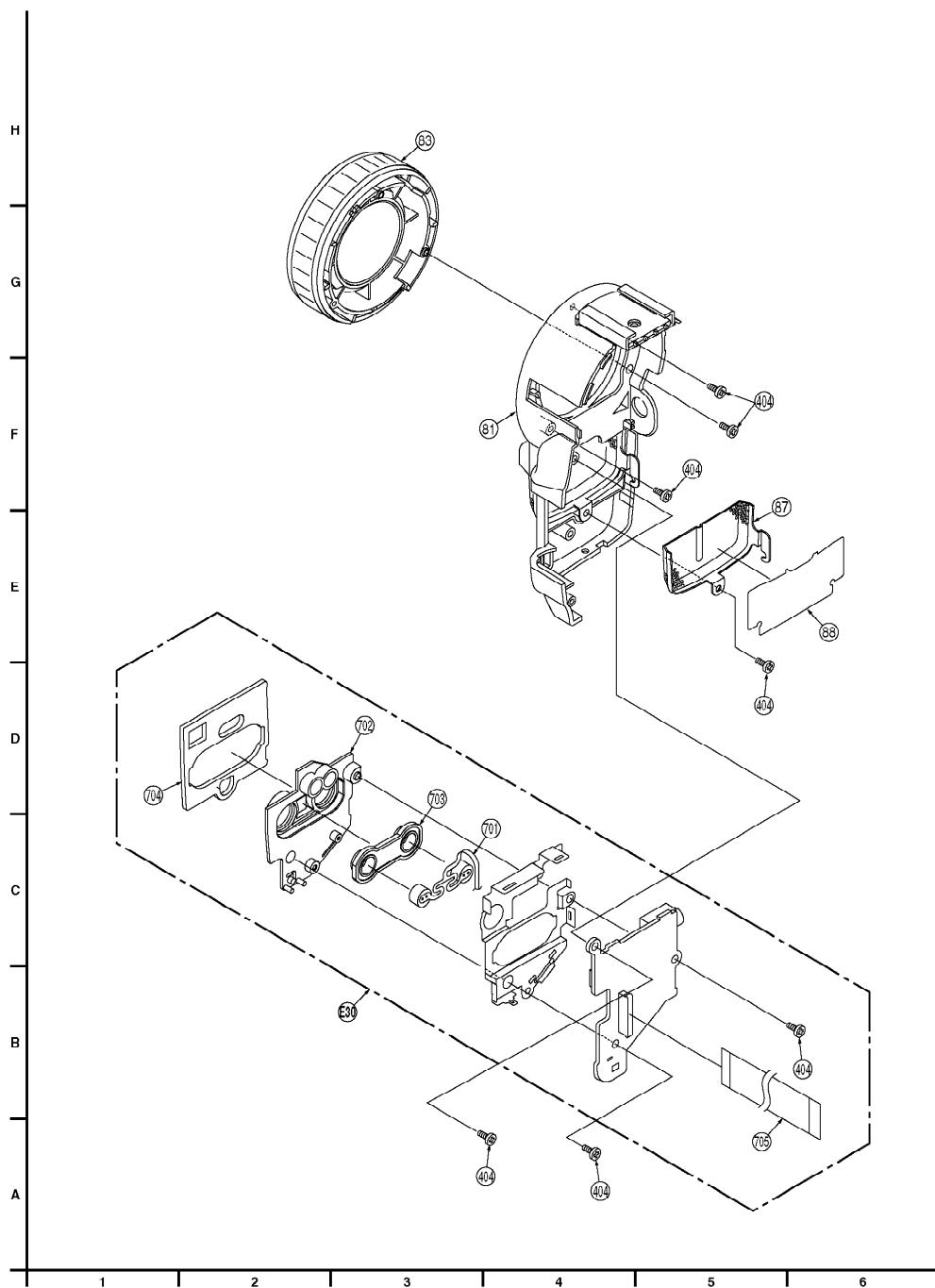
IMPORTANT SAFETY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN  HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.



11.6. FRONT CASE SECTION

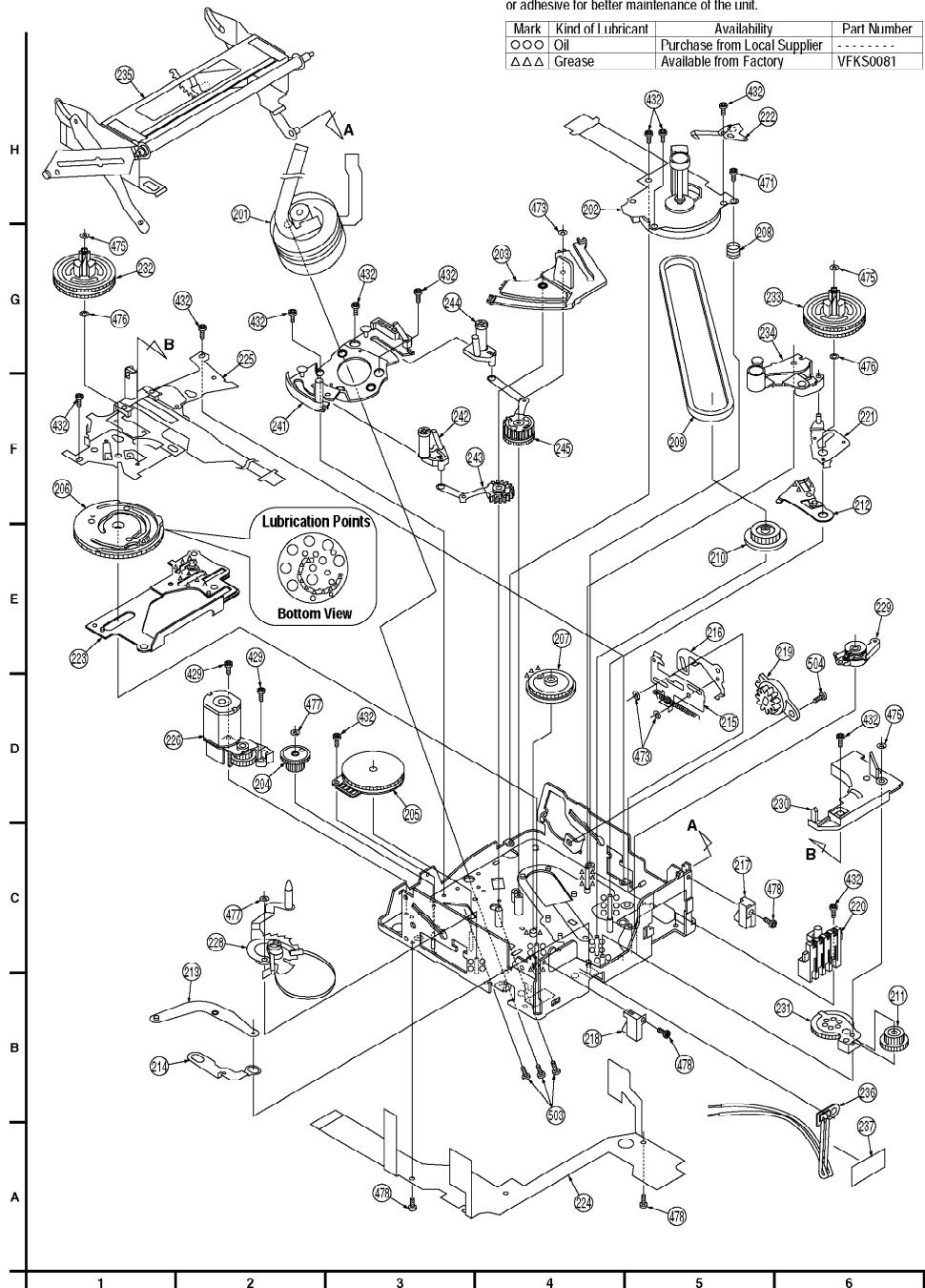
⑤ FRONT CASE SECTION



6 MECHANISM SECTION

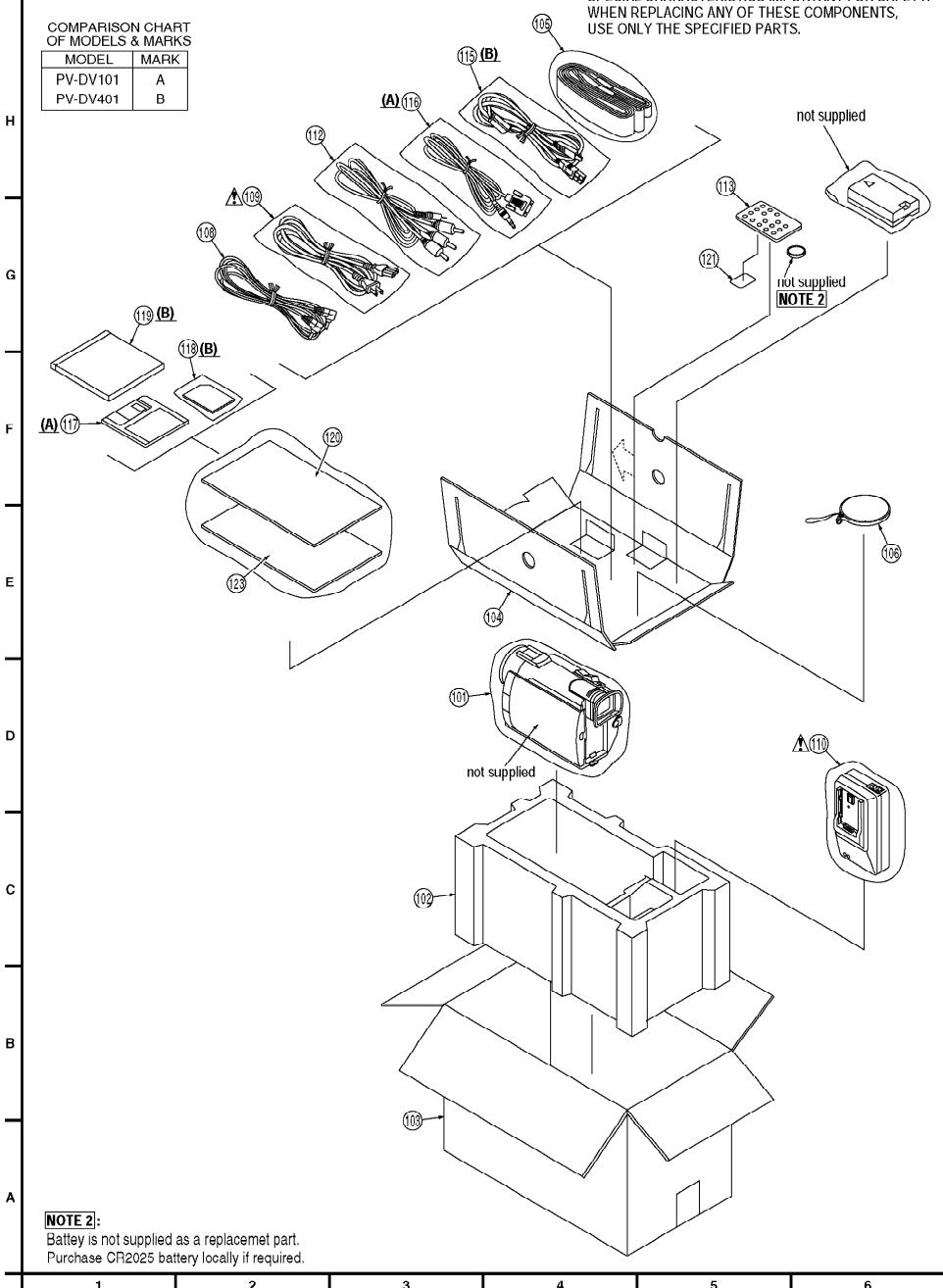
LUBRICATION POINTS
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
○○○	Oil	Purchase from Local Supplier	-----
△△△	Grease	Available from Factory	VFKS0081



11.8. PACKING PARTS AND ACCESSORIES SECTION

7 PACKING PARTS AND ACCESSORIES SECTION



12. REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

12.1. REPLACEMENT NOTES

12.1.1. General Notes

1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. IMPORTANT SAFETY NOTICE

Components identified by the sign  have special characteristics important for safety. When replacing any of these components, use only the specified parts.

3. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied.

And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.

5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.

6. Parts with mark "VED" in the Remarks column are supplied from VED. Others are supplied from MKE.

7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.

8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.

9. Battery (Ref. No. 731) replacement note:

WARNING: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.

12.1.2. Mechanical Replacement Notes

1. Section No. of parts shown in Exploded Views are indicated in the Remarks column.

2. Abbreviation

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

- 3. Cut Washers (Ref No. 473, 475, and 477) are not reusable. If removed, install a new one.**

12.1.3. Electrical Replacement Notes

- 1. Unless otherwise specified;**

All resistors are in Ω , K= 1,000 Ω , M= 1,000 k Ω .

- 2. Abbreviation**

RTL: Retention Time Limited

This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.

NR: Non Repairable Board Ass'y

MGF CHIP: Metal Glaze Film Chip

C CHIP: Ceramic Chip

COMPLX CMP: Complex Component

W FLMPRF: Wirewound Flameproof

C.B.A.: Circuit Board Assembly

P.C.B.: Printed Circuit Board

E.S.D.: Electrostatically Sensitive Devices

3. SERVICE OF CHIP PARTS

When servicing chip parts, please use a soldering iron of less than 30 W. Refer to "**IC, TRANSISTOR AND CHIP PART INFORMATION.**"

- 4. When replacing 0 Ω resistor, a wire can be substituted for it.**

- 5. Parts with mark "CSP" in the Remarks column are CSP (Chip Size Package) IC.**

- 6. IC6001 replacement note:**

Three types of IC6001 (M32121FCAWG, M32121MCA100, or M32121MCA101) are used on a running change basis. When replacing IC6001, as in cases like the following, it is necessary to replace the resistor at the same time. Otherwise, IC6001 may have

ashort life.

Be sure to confirm the part numbers of both the original IC6001 and the new one supplied as shown:

Case1:

When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA101), be sure to remove resistor (Ref No. R6027). Then, install it to R6076.

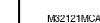
Case2:

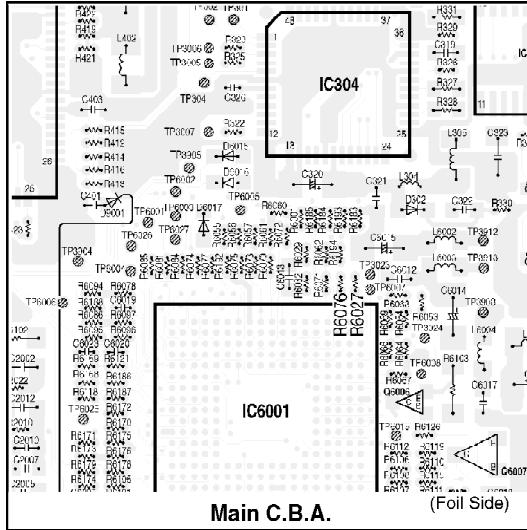
When r

(M32121FCAWG), be sure to remove resistor (Ref No. R6076). Then, install it to R6027.

Types of IC6

Page 1

M32121FCAWG		Part number M32121FCAWG
M32121MCA100		Part number M32121MCA -100WG
M32121MCA101		Part number M32121MCA -101WG

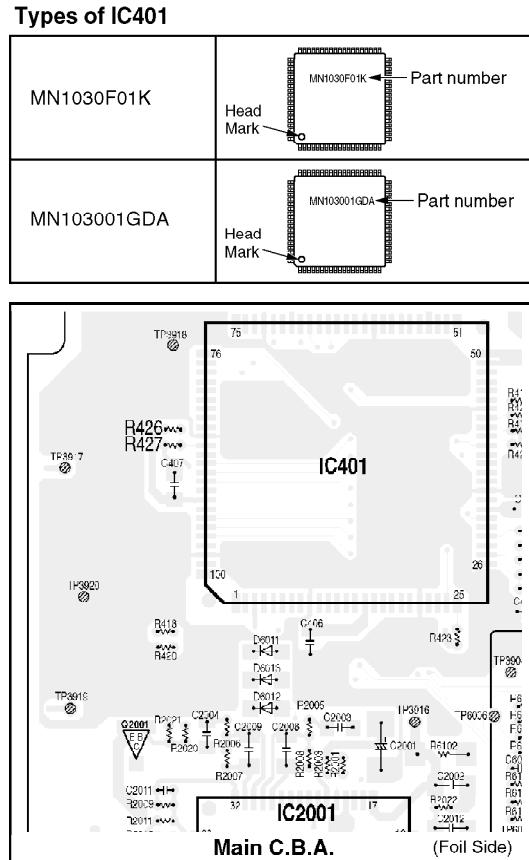


7. IC401 replacement note for model PV-DV401:

Two types of IC401 (MN1030F01K or MN103001GDA) are used on a running change basis. When replacing IC401, as in cases like the following, it is necessary to replace the resistor at the same time. Otherwise, IC401 may have a short life.

Be sure to confirm the part numbers of both the original IC401 and the new one supplied as shown:

- When replacing IC401 (MN1030F01K) with IC401 (MN103001GDA), be sure to remove resistor (Ref No. R427). Then, install it to R426.



COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

12.2. MECHANICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name& Description	Remarks
1	LSXY0254	MECHANISM CHASSIS ASS'Y	1
1	LSXY0231	MECHANISM CHASSIS ASS'Y	1
2	LSYK0590	CASSETTE COVER UNIT	1
3	LSKM0240	LEFT COVER	▲ 1
4	LSMA0521	GROUNDING PLATE,STEEL	1
11	LSYK0604	SIDE CASE L UNIT,ABS RESIN (A)	1
11	LSYK0605	SIDE CASE L UNIT,ABS RESIN (B)	1
16	LSEK0403	LIGHT TERMINAL UNIT	2
22	LSFL0076	OPTICAL FILTER	3
25	LSMA0398	JACK ANGLE	1
30	LSJB8012	JACK CABLE W/OUT PLUG,2VP-P	1
31	LSYK0594	TOP CASE UNIT,ABS RESIN (A)	2
31	LSYK0615	TOP CASE UNIT,ABS RESIN (B)	2
34	LSMT0045	LENS RUBBER	3
35	LSMA0482	TOP ANGLE	2
38	LSEQ0601	TOP OPERATION UNIT (A)	2
38	LSEQ0614	TOP OPERATION UNIT (B)	2
40	LSYK0276	EYE CAP UNIT (A)	2
40	LSYK0186	EYE CAP UNIT (B)	2
41	LSYK0606	EVF CASE B UNIT (A)	2
41	LSKM0264	EVF CASE B,ABS RESIN (B)	▲ 2
42	LSDL0094	DUST COVER (A)	2
43	LSXA0320	EVF ANGLE UNIT (B)	2
44	LSGQ0015	EVF F.P.C. HOLDER (B)	2
46	LSKM0512	EVF BASE HOLDER (A)	2
48	LSYK0591	EVF CASE A UNIT,ABS RESIN (A)	2
48	LSKM0575	EVF CASE A,ABS RESIN (B)	▲ 2
50	LSYK0593	ELECTRONIC VIEWFINDER UNIT (A)	2
50	LSYK0575	COLOR ELECTRONIC VIEWFINDER UNIT (B)	2
51	LSSC0347	FIXING ANGLE (B)	2
52	LSJB8106	EVF CABLE W/OUT CABLE,DC12V (B)	2
54	LCX032ANB-8	LIQUID CRYSTAL DISPLAY PANEL (B)	2
55	LSMD0286	EVF LCD HOLDER (B)	2
56	LSFL0072	LED LENS (B)	2
57	LSFL0073	LED DIFFUSION PLATE,STEEL (B)	2
58	LSDL0130	PROTECT PLATE,STEEL (B)	2
59	LSMD0285	EVF PROTECT B (B)	2
60	LSMD0284	EVF PROTECT A (B)	2
61	LSMD0281	LENS PIECE	3
64	LSFL0074	INFRARED CUT FILTER (A)	3
65	LSXN0014	LENS UNIT (A)	3
65	LSXN0013	LENS UNIT (B)	3
66	LSMG0080	FILTER RUBBER	3
68	LSEM0030	ZOOM MOTOR UNIT	3
69	LSEM0031	FOCUS MOTOR UNIT	3
70	LSDS0002	OPTICAL FILTER STOPPER (A)	3
71	LSKM0573	SIDE CASE R,ABS RESIN (A)	▲ 4
71	LSKM0574	SIDE CASE R,ABS RESIN (B)	▲ 4
72	LSMA0394	TORIPOD FRAME	4
73	LSSU0007	SPEAKER	4
74	LSMA0399	SPEAKER PLATE,STEEL	4
75	LSKM0380	RIGHT COVER (A)	4

Ref. No.	Part No.	Part Name& Description	Remarks
75	LSYK0709	RIGHT COVER UNIT (B)	4
81	LSYK0565	FRONT CASE UNIT,ABS RESIN (A)	5
81	LSYK0566	FRONT CASE UNIT,ABS RESIN (B)	5
83	LSYK0564	LENS RING UNIT	5
87	LSKN0001	MICROPHONE NET	5
88	LSGQ0016	MICROPONE SHEET,NYLON-RAYON	5
90	VMFW0100	SHEET,NYLON-RAYON	3,4
94	LSYK0572	LCD CASE A UNIT,ABS RESIN (A)	4
94	LSYK0573	LCD CASE A UNIT,ABS RESIN (B)	4
95	LSKM0244	LCD CASE B,ABS RESIN (A)	▲ 4
95	LSKM0245	LCD CASE B,ABS RESIN (B)	▲ 4
96	LSXA0373	LCD SHAFT UNIT (A)	4
96	LSXA0329	LCD SHAFT UNIT (B)	4
98	LSXY0241	LIQUID CRYSTAL DISPLAY PANEL UNIT (A)	4
98	VXYW0201	LIQUID CRYSTAL DISPLAY PANEL UNIT (B)	4
99	LSXY0207	LEAD LIGHT PANEL UNIT	4
100	LSXY0205	LAMP UNIT	4
101	VPFW0051	BAG,POLYETHYLENE	7
102	LSPN0211	CUSHION,STYROFORM	7
103	LSPG0996	PACKING CASE,PAPER	7
104	LSPG1046	ACCESSORY PACKING CASE,PAPER	7
105	LSFC0016	SHOULDER STRAP	7
106	LSYF0478	HOOD CAP UNIT	7
108	LSJA0310	DC CABLE W/PLUG,DC7.8V	7
109	LSJA0282	AC CORD W/PLUG,AC120V	▲ 7
109	VJAW0044	AC CORD W/PLUG,AC120V	▲ 7
110	PV-DAC11-A	AC ADAPTOR UNIT	▲ 7
112	LSJA0280	AUDIO/VIDEO CABLE W/PLUG,2VP-P	7
113	LSSQ0293	INFRARED REMOTE CONTROL UNIT	7
115	LSJA0354	PC CONNECTION CABLE W/PLUG,DC5V,DC-5V (B)	7
116	LSJA0276	PC CONNECTION CABLE W/PLUG,DC15V,DC-15V (A)	7
117	LSFT0256	DRIVER SOFTWARE FLOPPY DISK (A)	7
119	LSFT0248	APPICATOPN SOFTWARE CD-ROM (B)	7
118	LSFT0225	MALTIMEDIA CARD (B)	7
120	LSQT0436A	INSTRUCTION BOOK(SPANISH) (A)	7
120	LSQT0437A	INSTRUCTION BOOK(SPANISH) (B)	7
121	VQLS7836	LABEL	7
123	LSQT0450A	INSTRUCTION BOOK(ENGLISH) (A)	7
123	LSQT0451A	INSTRUCTION BOOK(ENGLISH) (B)	7
201	LSEG0001	CYLINDER UNIT	6
201	LSEG0012	CYLINDER UNIT	6
202	LSEM0041	CAPSTAN UNIT	6
203	LSMD0185	RAIL	6
204	LSDG0092	REDUCTION GEAR B	6
205	LSSR0004	MODE SWITCH	6
206	LSDG0093	CAM GEAR	6
207	LSDG0094	INTERMEDIATE GEAR	6
208	LSMB0180	CAPSTAN ADJUST SPRING	6
209	LSDV0006	TIMING BELT	6
210	LSDG0095	DRIVE PULLEY	6
211	LSDG0096	CENTER GEAR	6
212	LSMA0364	T4 DRIVE ARM	6

Ref. No.	Part No.	Part Name& Description	Remarks
213	LSML0099	TENSION DRIVE ARM	6
214	LSML0100	S BRAKE DRIVE LEVER	6
215	VXLS1122	LOCK LEVER UNIT	6
216	LSML0102	LOCK PICK LEVER	6
217	LSMD0186	GUIDE PIECE R	6
218	LSMD0187	GUIDE PIECE L	6
219	LSXP0018	DAMPER UNIT	6
220	LSSH0001	MEMORY IN CASSETTE SWITCH	6
221	LSMA0365	PINCH DRIVE ARM	6
222	LSMB0181	T4 HEIGHT PLATE	6
223	VXLS1115	MAIN PLATE UNIT	6
224	LSEK0404	MECHANISM FLEXIBLE PRINTED CURCUIT UNIT	6
225	LSEK0405	SENSOR FLEXIBLE PRINTED CURCUIT UNIT	6
226	VEMS0335	LOADING MOTOR UNIT	6
228	VXLS1116	TENSION ARM UNIT	6
229	VXLS1083	T BRAKE UNIT	6
230	VXDS0215	MECHANISM COVER UNIT	6
231	VXLS1084	IDLER ARM UNIT	6
232	LSXR0002	S REEL TABLE	6
233	LSXR0003	T REEL TABLE	6
234	VXLS1123	PINCH ARM UNIT	6
235	VXAS4418	GARAGE UNIT	6
236	EYHS77W18	DEW SENSOR	6
237	VMFW0045	SHEET,NYLON-RAYON	6
241	LSXD0017	CYLINDER BASE UNIT	6
242	VXDS0210	S POST UNIT	6
243	VXLS1118	S ARM UNIT	6
244	VXDS0209	T POST UNIT	6
245	VXLS1119	T ARM UNIT	6
403	XQN2+BF4FXK	SCREW,STEEL	1,2,4
404	XQN2+BJ5FXK	SCREW,STEEL	1,2,4,5
405	XQN2+BF3FXK	SCREW,STEEL	4
407	XQN2+BF4FN	SCREW,STEEL (B)	2
413	LSHD0051	SCREW,STEEL	1
414	XQN2+BJ8FXK	SCREW,STEEL	1
416	XQN2+BJ3FXK	SCREW,STEEL	4
421	XQN16+CJ6	SCREW,STEEL	3
422	XQN16+CJ5FY	SCREW,STEEL	3
429	XQN14+B35	SCREW,STEEL	6
432	XQN14+B2	SCREW,STEEL	6
471	XQN14+B35FNK	SCREW,STEEL	6
473	VMX2026	CUT WASHER,STEEL	6
475	VMX2750	CUT WASHER,STEEL	6
476	XWGV12Y24G	POLY SLIDER WASHER	6
477	VMX2028	CUT WASHER,STEEL	6
478	XQN14+B12FN	SCREW,STEEL	6
503	LSHD0073	SPECIAL SCREW	6
504	XQN2+B35	SCREW,STEEL	6
506	XQN14+B15	SCREW,STEEL	1
701	LSEK0399	ELECTORIC CONDENSER MICROPHONEUNIT (A)	5
701	LSEK0400	ELECTORIC CONDENSER MICROPHONEUNIT (B)	5
702	LSMD0282	MICROPHONE PIECE	5
703	LSMG0079	MICROPHONE DAMPER	5
704	LSMT0056	MICROPHONE CUSHION (A)	5

Ref. No.	Part No.	Part Name& Description	Remarks
704	LSMT0057	MICROPHONE CUSHION (B)	5
705	LSJW0013	FLEXIBLE FLAT CABLE W/OUT PLUG,22P0.5MMP,50MM	5
711	LSEK0372	CRT SOCKET UNIT	2
712	ELY05V578G	DEFLECTION YOKE	⚠ 2
713	M01LSX07WB01	CRT	⚠ 2
714	LSJB8107	FLEXIBLE PRINTED CABLE W/PLUG,DC 5V	2
721	VMZW0660	INSULATION SHEET,PLASTIC	4
722	VMTS0035M	CUSHION,RUBBER	1
723	VMFS0138	SHEET,NYLON-RAYON	1
731	LSSB0004	BATTERY	1
E10	LSEP8085A1	MAIN C.B.A. (A)	1
E10	LSEP8085C1	MAIN C.B.A. (B)	1
E20	LSEP8086A1	POWER C.B.A. (A)	1 RTL
E20	LSEP8086B1	POWER C.B.A. (B)	1 RTL
E30	LSXM0013	MICROPHONE UNIT/FRONT C.B.A. (A)	5 RTL
E30	LSXM0014	MICROPHONE UNIT/FRONT C.B.A. (B)	5 RTL
E40	LSEQ0607	ELECTRONIC VIEWFINDER C.B.A. (A)	2 RTL
E50	LSEP8093A1	COLOR ELECTRONIC VIEWFINDER C.B.A. (B)	2 RTL
E60	LSEP8090A1	LIQUID CRYSTAL DISPLAY C.B.A. (A)	4 RTL
E60	LSEP8090B1	LIQUID CRYSTAL DISPLAY C.B.A. (B)	4 RTL
E70	LSEP8005B1	JACK C.B.A.	1 RTL
E80	LSEP8057C1	S-JACK C.B.A.	1 RTL
E90	LSEQ0603	CCD C.B.A. NR	3
E100	LSEP8094A1	SHORT JIG C.B.A. (B)	1

SERVICE FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name& Description	Remarks
	VFK1217	49% TRANSMISSION TAPE	VED
	VFM3010EDS	COLOR BAR STANDARD TAPE	VED
	VFK1451	DVC HEAD CLEANING TAPE	VED
	LSVQ0041	TAPE PATH ALIGNMENT TAPE	
	LSVQ0028	PLIER FOR NON ZIF CONNECTOR	
	VFKW0124	EXTENSION CABLE 14P	
	VUVS0012	EXTENSION CABLE 22P	
	LSUA0019	EXTENSION CABLE 8P	
	LSUA0033	EXTENSION CABLE 40P	
	LSUA0017	EXTENSION CABLE 18P	
	LSUA0016	EXTENSION CABLE 10P	
	VUVS0007	EXTENSION CABLE 12P	
	LSUA0020	EXTENSION CABLE 20P	
	LSVQ0020	CAPSTAN TILT ADJUSTMENT TOOL	
	LSUQ0002	GREASE	
	VFKS0081	GREASE	
	VFK1164LBX1	LIGHT BOX	VED
	VFK1164TCM02	INFINITY LENS (WITH FOCUS CHART)	VED
	VFK1164TAR43	43mm RING	VED
	VFK1164TFCT2	COLOR CONVERSION FILTER (C14)	VED
	LSVQ0021	POST HEIGHT ADJUSTMENT FIXTURE	
	LSUP0014	CAMERA CONNECTING CABLE	
	LSUP0007	INTERFACE BOARD FOR ELECTRICAL ADJUSTMENT	
	VFK1164TFWC2	WHITE CHART	VED
	VFK1164TFCB2	COLOR BAR CHART	VED

12.3. ELECTRICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name& Description	Remarks
E10	LSEP8085A1	MAIN C.B.A. (A)	E.S.D.
E10	LSEP8085C1	MAIN C.B.A. (B)	E.S.D.
E20	LSEP8086A1	POWER C.B.A. (A)	E.S.D. RTL
E20	LSEP8086B1	POWER C.B.A. (B)	RTL
E30	LSXM0013	MICROPHONE UNIT/FRONT C.B.A. (A)	RTL
E30	LSXM0014	MICROPHONE UNIT/FRONT C.B.A. (B)	RTL
E40	LSEQ0607	ELECTRONIC VIEWFINDER C.B.A. (A)	RTL
E50	LSEP8093A1	COLOR ELECTRONIC VIEWFINDER C.B.A. (B)	RTL
E60	LSEP8090A1	LIQUID CRYSTAL DISPLAY C.B.A. (A)	RTL
E60	LSEP8090B1	LIQUID CRYSTAL DISPLAY C.B.A. (B)	RTL
E70	LSEP8005B1	JACK C.B.A.	RTL
E80	LSEP8057C1	S-JACK C.B.A.	RTL
E90	LSEQ0603	CCD C.B.A. NR	E.S.D.
E100	LSEP8094A1	SHORT JIG C.B.A. (B)	

12.3.1. MAIN C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC301	AD9843AJST	IC, LINEAR	
IC302	XC62FP2902MR	IC, CMOS STANDARD LOGIC	E.S.D.
IC303	XC74UHU04WM	IC, CMOS STANDARD LOGIC	E.S.D.
IC304	MN52A2	IC, LOGIC	E.S.D.
IC305	MN31121SA-E1	IC, LOGIC	E.S.D.
IC401	MN103001GDA	IC, 32BIT MICROCONTROLLER (B) *See Replacement Note	E.S.D.
IC402	PDIUSBD12	IC, LOGIC (B)	E.S.D.
IC701	LB1837MLTEL3	IC, LINEAR	
IC702	LB1837MLTEL3	IC, LINEAR	
IC703	BA10324AFVE1	IC, LINEAR	
IC2001	LB11954W-MPB	IC, LINEAR	
IC3001	T3W60XBA	IC, LOGIC	E.S.D. CSP
IC3001	T3W60XBA-1	IC, LOGIC	E.S.D. CSP
IC3002	AN2903FJQ-V	IC, LINEAR	
IC3201	AD80028XBC	IC, LOGIC	E.S.D. CSP
IC3202	SN104290GGM	IC, LOGIC	E.S.D. CSP
IC4301	AK4563VF-E1	IC, LOGIC	E.S.D.
IC5001	AN3732FJMEFV	IC, LINEAR	
IC6001	M32121MCA101	IC, 32BIT MICROCONTROLLER / *See Replacement Note	E.S.D. CSP
IC6002	M37540M4-060	IC, 8BIT MICROCONTROLLER	E.S.D.
IC6003	S817A33ANBT2	IC, CMOS STANDARD LOGIC	E.S.D.
IC6004	S80828ANNPT2	IC, LINEAR	
IC6005	NJM12903VTE1	IC, LINEAR	
IC6006	NJM12904VTE1	IC, LINEAR	
IC6007	LSUQ0031	IC, 16K EEPROM	E.S.D.
IC6008	S3514AEFSTB	IC, LOGIC	E.S.D.
IC6009	M62366GP	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q401	2SD1819A	TRANSISTOR SI NPN CHIP (B)	
Q401	2SC4081T106R	TRANSISTOR SI NPN CHIP (B)	
Q701	2SD1819A	TRANSISTOR SI NPN CHIP	
Q701	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q702	2SD1819A	TRANSISTOR SI NPN CHIP	
Q702	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q1101	2SA2011-TD	TRANSISTOR SI PNP CHIP	
Q1102	2SD1819A	TRANSISTOR SI NPN CHIP	
Q1102	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q1103	2SB1462J	TRANSISTOR SI PNP CHIP	
Q1103	2SA1774(R)	TRANSISTOR SI PNP CHIP	
Q1104	2SD2216J	TRANSISTOR SI NPN CHIP	
Q1104	2SC4617(R)	TRANSISTOR SI NPN CHIP	
Q1105	2SB1462J	TRANSISTOR SI PNP CHIP	
Q1105	2SA1774(R)	TRANSISTOR SI PNP CHIP	
Q1106	2SB1462J	TRANSISTOR SI PNP CHIP	
Q1106	2SA1774(R)	TRANSISTOR SI PNP CHIP	
Q1201	2SD1819A	TRANSISTOR SI NPN CHIP	
Q1201	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q1202	2SD2216J	TRANSISTOR SI NPN CHIP	
Q1202	2SC4617(R)	TRANSISTOR SI NPN CHIP	
Q1203	2SB1462J	TRANSISTOR SI PNP CHIP	
Q1203	2SA1774(R)	TRANSISTOR SI PNP CHIP	

Ref. No.	Part No.	Part Name& Description	Remarks
Q1204	2SB1218A	TRANSISTOR SI PNP CHIP	
Q1204	2SA1576A106R	TRANSISTOR SI PNP CHIP	
Q1205	UN9213J	TRANSISTOR SI NPN CHIP	
Q1205	DTC144EE-TL	TRANSISTOR SI NPN CHIP	
Q1206	2SD2216J	TRANSISTOR SI NPN CHIP	
Q1206	2SC4617(R)	TRANSISTOR SI NPN CHIP	
Q1207	2SB1462J	TRANSISTOR SI PNP CHIP	
Q1207	2SA1774(R)	TRANSISTOR SI PNP CHIP	
Q2001	2SD1819A	TRANSISTOR SI NPN CHIP	
Q2001	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q3006	2SD1819A	TRANSISTOR SI NPN CHIP	
Q3006	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q3007	2SD1819A	TRANSISTOR SI NPN CHIP	
Q3007	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q3008	2SD1819A	TRANSISTOR SI NPN CHIP	
Q3008	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q3009	2SD1819A	TRANSISTOR SI NPN CHIP (B)	
Q3009	2SC4081T106R	TRANSISTOR SI NPN CHIP (B)	
Q3010	2SD1819A	TRANSISTOR SI NPN CHIP	
Q3010	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q3011	2SD1819A	TRANSISTOR SI NPN CHIP (B)	
Q3011	2SC4081T106R	TRANSISTOR SI NPN CHIP (B)	
Q6001	2SD601A	TRANSISTOR SI NPN CHIP (B)	
Q6001	2SC2412K146R	TRANSISTOR SI NPN CHIP (B)	
Q6002	2SD601A	TRANSISTOR SI NPN CHIP (B)	
Q6002	2SC2412K146R	TRANSISTOR SI NPN CHIP (B)	
Q6003	2SB1218A	TRANSISTOR SI PNP CHIP (B)	
Q6003	2SA1576A106R	TRANSISTOR SI PNP CHIP (B)	
Q6004	2SB1218A	TRANSISTOR SI PNP CHIP (B)	
Q6004	2SA1576A106R	TRANSISTOR SI PNP CHIP (B)	
Q6005	UN5213	TRANSISTOR SI PNP CHIP	
Q6005	DTC144EUA106	TRANSISTOR SI NPN CHIP	
Q6006	2SD1820A	TRANSISTOR SI NPN CHIP	
Q6007	2SB970	TRANSISTOR SI PNP CHIP	
Q6007	2SB1585	TRANSISTOR SI PNP CHIP	
Q6008	2SD1819A	TRANSISTOR SI NPN CHIP	
Q6008	2SC4081T106R	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D301	MA2S728	DIODE SI CHIP	
D301	RB520S30TE61	DIODE SI CHIP	
D1101	RD12S-T1B	DIODE ZENER CHIP 12V	
D1102	MA111	DIODE SI CHIP	
D1102	1SS355TE-17	DIODE SI CHIP	
D1201	MA8100	DIODE ZENER CHIP 10V	
D1202	MA8062-HTX	DIODE ZENER CHIP 6.8V	
D1203	MA8120-H	DIODE ZENER CHIP 12V	
D6001	MA147	DIODE SI CHIP	
D6002	MA2S728	DIODE SI CHIP	
D6002	RB520S30TE61	DIODE SI CHIP	
D6007	MA111	DIODE SI CHIP	
D6007	1SS355TE-17	DIODE SI CHIP	
D6008	MA2S728	DIODE SI CHIP	
D6008	RB520S30TE61	DIODE SI CHIP	
D6009	MA2S728	DIODE SI CHIP	
D6009	RB520S30TE61	DIODE SI CHIP	
D6010	RD12S-T1B	DIODE ZENER CHIP 12V	
D6015	MA2S728	DIODE SI CHIP	
D6015	RB520S30TE61	DIODE SI CHIP	
D6016	MA2S728	DIODE SI CHIP	
D6016	RB520S30TE61	DIODE SI CHIP	
D6017	MA2S728	DIODE SI CHIP	
D6017	RB520S30TE61	DIODE SI CHIP	
D9001	MA728	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R301	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R302	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R303	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R304	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R305	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R306	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R307	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R308	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R309	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R310	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R311	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R312	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R314	ERJ2GEJ181X	MGF CHIP 1/16W 180	
R315	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R316	ERJ2GEJ101X	MGF CHIP 1/16W 100 (B)	
R317	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R318	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R320	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R321	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R322	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R323	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R325	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R326	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R327	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R328	ERJ3GEYJ100V	MGF CHIP 1/16W 10	

Ref. No.	Part No.	Part Name& Description	Remarks
R330	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R331	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R332	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R401	ERJ2GEJ102X	MGF CHIP 1/16W 1K (B)	
R402	ERJ2GEJ101X	MGF CHIP 1/16W 100 (B)	
R403	ERJ2GEJ102X	MGF CHIP 1/16W 1K (B)	
R404	ERJ2GEJ101X	MGF CHIP 1/16W 100 (B)	
R405	ERJ2GE0R00X	MGF CHIP 1/16W 0 (B)	
R406	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R407	ERJ2GE0R00X	MGF CHIP 1/16W 0 (B)	
R408	ERJ2GEJ473X	MGF CHIP 1/16W 47K (B)	
R409	ERJ2GE0R00X	MGF CHIP 1/16W 0 (B)	
R410	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R411	ERJ2GE0R00X	MGF CHIP 1/16W 0 (B)	
R413	ERJ2GEJ471X	MGF CHIP 1/16W 470 (B)	
R414	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K (B)	
R415	ERJ2GEJ102X	MGF CHIP 1/16W 1K (B)	
R418	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K (B)	
R420	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R421	ERJ2GEJ471X	MGF CHIP 1/16W 470 (B)	
R422	ERJ2GEJ473X	MGF CHIP 1/16W 47K (B)	
R423	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R424	ERJ2GEJ473X	MGF CHIP 1/16W 47K (B)	
R425	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R426	ERJ2GE0R00X	MGF CHIP 1/16W 0 (B) /*See Replacement Note	
R427	ERJ2GE0R00X	MGF CHIP 1/16W 0 (B) /*See Replacement Note	
R430	ERJ8GEYF180V	MGF CHIP 1/16W 18 (B)	
R432	ERJ8GEYF180V	MGF CHIP 1/16W 18 (B)	
R437	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R439	ERJ2GEJ473X	MGF CHIP 1/16W 47K (B)	
R440	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K (B)	
R441	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R442	ERJ2GEJ473X	MGF CHIP 1/16W 47K (B)	
R443	ERJ2GEJ102X	MGF CHIP 1/16W 1K (B)	
R444	ERJ2GEJ101X	MGF CHIP 1/16W 100 (B)	
R445	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R446	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R447	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K (B)	
R701	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R702	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R703	ERJ2GEJ363X	MGF CHIP 1/16W 36K	
R704	ERJ2GEJ363X	MGF CHIP 1/16W 36K	
R705	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R706	ERJ2GEJ114X	MGF CHIP 1/16W 110K	
R707	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R708	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R709	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R710	ERJ2GEJ114X	MGF CHIP 1/16W 110K	
R711	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R712	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R713	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R714	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R715	ERJ6GEYJ5R6V	MGF CHIP 1/10W 5.6	
R716	ERJ6GEYJ5R6V	MGF CHIP 1/10W 5.6	

Ref. No.	Part No.	Part Name& Description	Remarks
R718	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R719	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R720	ERJ2GEJ114X	MGF CHIP 1/16W 110K	
R721	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R722	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R723	ERJ2GEJ114X	MGF CHIP 1/16W 110K	
R724	ERJ2GEJ363X	MGF CHIP 1/16W 36K	
R725	ERJ2GEJ363X	MGF CHIP 1/16W 36K	
R726	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R727	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R728	ERJ6GEYJ5R6V	MGF CHIP 1/10W 5.6	
R729	ERJ6GEYJ5R6V	MGF CHIP 1/10W 5.6	
R730	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R731	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R732	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R733	ERJ2GEJ124X	MGF CHIP 1/16W 120K	
R734	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R735	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R736	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R737	ERJ2GEJ334X	MGF CHIP 1/16W 330K	
R738	ERJ2GEJ394X	MGF CHIP 1/16W 390K	
R739	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R741	ERJ2GEJ823X	MGF CHIP 1/16W 390K	
R742	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R743	ERJ2GEJ474X	MGF CHIP 1/16W 470K	
R744	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R745	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R746	ERJ2GEJ152X	MGF CHIP 1/16W 1.5K	
R747	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R748	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R749	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R750	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R751	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R752	ERJ3GEYJ565V	MGF CHIP 1/16W 5.6M	
R753	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R754	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R755	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R756	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R757	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R758	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R759	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R760	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R761	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R1101	ERJ8GEYJR56V	MGF CHIP 1/4W 0.56	
R1102	ERJ8GEYJR56V	MGF CHIP 1/4W 0.56	
R1103	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1104	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R1105	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R1106	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R1107	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1108	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1109	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1110	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1111	ERJ2GEJ223X	MGF CHIP 1/16W 22K	

Ref. No.	Part No.	Part Name& Description	Remarks
R1112	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1113	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1114	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1201	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1202	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R1203	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1204	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1205	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1206	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1207	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1208	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1209	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1210	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R2001	ERJ2GEJ122X	MGF CHIP 1/16W 1.2K	
R2002	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R2003	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R2004	ERJ2GEJ683X	MGF CHIP 1/16W 68K	
R2005	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2006	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2007	ERJ2GEJ824X	MGF CHIP 1/16W 820K	
R2008	ERJ2GEJ474X	MGF CHIP 1/16W 470K	
R2009	ERJ2GEJ225X	MGF CHIP 1/16W 2.2M	
R2010	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R2011	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2012	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2013	ERJ2GEJ225X	MGF CHIP 1/16W 2.2M	
R2014	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R2015	ERJ8GEYJR27V	MGF CHIP 1/8W 0.27	
R2016	ERJ8GEYJR27V	MGF CHIP 1/8W 0.27	
R2017	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R2018	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R2019	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R2020	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R2021	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R2022	ERJ2GEJ333X	MGF CHIP 1/16W 33K	
R3001	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3004	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R3005	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R3006	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3007	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R3008	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K	
R3010	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K	
R3014	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K	
R3016	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3017	ERJ2GEJ103X	MGF CHIP 1/16W 10K (A)	
R3017	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K (B)	
R3018	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K (B)	
R3019	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K	
R3020	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K (B)	
R3021	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3022	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3023	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3024	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3028	ERJ2GE0R00X	MGF CHIP 1/16W 0	

Ref. No.	Part No.	Part Name& Description	Remarks
R3030	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3032	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3033	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R3034	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3035	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3101	ERJ2GEJ750X	MGF CHIP 1/16W 75	
R3102	ERJ2GEJ680X	MGF CHIP 1/16W 68	
R3103	ERJ2GEJ680X	MGF CHIP 1/16W 68	
R3107	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R3109	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R3110	ERJ2GEJ182X	MGF CHIP 1/16W 1.8K	
R3111	ERJ2GEJ391X	MGF CHIP 1/16W 390	
R3112	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3115	ERJ2GEJ391X	MGF CHIP 1/16W 390	
R3116	ERJ2GEJ182X	MGF CHIP 1/16W 1.8K	
R3118	ERJ2GEJ151X	MGF CHIP 1/16W 150	
R3119	ERJ2GEJ151X	MGF CHIP 1/16W 150	
R3120	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3122	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3124	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R3155	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3156	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3157	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3158	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3159	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R3201	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3202	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R3203	ERJ2GEJ470X	MGF CHIP 1/16W 47	
R3204	ERJ2GEJ272X	MGF CHIP 1/16W 2.7K	
R3205	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3206	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3207	ERJ2GEJ681X	MGF CHIP 1/16W 680	
R3208	ERJ2GEJ681X	MGF CHIP 1/16W 680	
R3209	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R3210	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R3211	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R3212	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3251	ERJ2RKD560X	MGF CHIP 1/16W 56	
R3252	ERJ2RKD560X	MGF CHIP 1/16W 56	
R3253	ERJ2RKD560X	MGF CHIP 1/16W 56	
R3254	ERJ2RKD560X	MGF CHIP 1/16W 56	
R3255	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3256	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3257	ERJ2RHD622X	MGF CHIP 1/16W 6.2K	
R3258	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R3259	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3260	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3502	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3901	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3905	ERJ2GE0R00X	MGF CHIP 1/16W 0 (A)	
R3906	ERJ2GE0R00X	MGF CHIP 1/16W 0 (A)	
R3907	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R4305	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R5001	ERJ2GE0R00X	MGF CHIP 1/16W 0	

Ref. No.	Part No.	Part Name& Description	Remarks
R5004	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R5005	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5006	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5008	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5009	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5011	ERJ2GEJ182X	MGF CHIP 1/16W 1.8K	
R5012	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R6001	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6002	ERJ2GEJ394X	MGF CHIP 1/16W 390K	
R6003	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6004	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6005	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6006	ERJ3GEYJ270V	MGF CHIP 1/16W 27 (B)	
R6007	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6008	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6009	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6010	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6011	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6012	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6013	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6014	ERJ3GEYJ270V	MGF CHIP 1/16W 27 (B)	
R6015	ERJ2RHD153X	MGF CHIP 1/16W 15	
R6016	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6018	ERJ2GEJ333X	MGF CHIP 1/16W 33K (B)	
R6019	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6020	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6021	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6022	ERJ2GEJ331X	MGF CHIP 1/16W 330 (B)	
R6023	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B)	
R6024	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K (B)	
R6025	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K (B)	
R6026	ERJ2GEJ272X	MGF CHIP 1/16W 2.7K (B)	
R6027	ERJ2GE0R00X	MGF CHIP 1/16W 0 / *See Replacement Note	
R6028	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6029	ERJ2GEJ474X	MGF CHIP 1/16W 470K	
R6030	ERJ2GEJ122X	MGF CHIP 1/16W 1.2K	
R6031	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6032	ERJ2GEJ274X	MGF CHIP 1/16W 270K	
R6033	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6034	ERJ2GEJ122X	MGF CHIP 1/16W 1.2K	
R6035	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6036	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6037	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6038	ERJ2RHD563X	MGF CHIP 1/16W 56K	
R6039	ERJ2RHD223X	MGF CHIP 1/16W 22K	
R6043	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6044	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6046	ERJ2GEJ681X	MGF CHIP 1/16W 680	
R6047	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6051	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6052	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6053	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6054	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6055	ERJ2GEJ473X	MGF CHIP 1/16W 47K	

Ref. No.	Part No.	Part Name& Description	Remarks
R6056	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6057	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6058	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R6059	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R6060	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6061	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6062	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6063	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6065	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6068	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6069	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6070	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6071	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6072	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6073	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6074	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6075	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6076	ERJ2GE0R00X	MGF CHIP 1/16W 0 / *See Replacement Note	
R6077	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6078	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6079	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R6080	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R6081	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6082	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R6083	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R6084	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6085	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6086	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6087	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R6088	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6089	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R6090	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6091	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6092	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6093	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6094	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6095	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6096	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6097	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6098	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6099	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6100	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6101	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6102	ERJ8GEYJ220V	MGF CHIP 1/8W 22	
R6103	ERJ8GEYJ270V	MGF CHIP 1/8W 27	
R6104	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6105	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6106	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6107	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6108	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6109	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6110	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6111	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6112	ERJ2GEJ102X	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name& Description	Remarks
R6113	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6114	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6115	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6116	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6117	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6118	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6119	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6120	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6121	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6122	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6123	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6124	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6125	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6126	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R6127	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6128	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6129	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6130	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6131	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6132	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6133	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6134	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6135	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6136	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6137	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6138	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6139	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6140	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6141	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R6143	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R6144	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6145	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K	
R6147	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R6148	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R6149	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6150	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K	
R6151	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6152	ERJ8GEYJ101V	MGF CHIP 1/4W 100	
R6153	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R6154	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R6155	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6156	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6158	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6159	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6160	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6161	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6162	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6163	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6164	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6165	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6166	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6167	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6168	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R6169	ERJ2GEJ101X	MGF CHIP 1/16W 100	

Ref. No.	Part No.	Part Name& Description	Remarks
R6170	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6171	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6172	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6173	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R6174	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R6175	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R6176	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R6177	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6178	ERJ2GEJ102X	MGF CHIP 1/16W 1K (B)	
R6179	ERJ2GEJ102X	MGF CHIP 1/16W 1K (B)	
R6180	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R6181	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R6182	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6183	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6184	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6185	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6186	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6187	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6188	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6189	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6190	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6191	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6192	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6193	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6194	ERJ2GEJ473X	MGF CHIP 1/16W 47K	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C301	ECUE1C104ZHQ	C CHIP 16V 0.1UF	
C302	ECUE1C104ZHQ	C CHIP 16V 0.1UF	
C303	ECUE1C104ZHQ	C CHIP 16V 0.1UF	
C304	ECUV1C104KBV	C CHIP 16V 0.1UF	
C306	ECUE1C104ZHQ	C CHIP 16V 0.1UF	
C307	ECUE1C104ZHQ	C CHIP 16V 0.1UF	
C308	ECUV1A105ZHV	C CHIP 10V 1UF	
C309	ECUV1A105ZHV	C CHIP 10V 1UF	
C310	ECUE1C104ZHQ	C CHIP 16V 0.1UF	
C311	ECUV1C104ZHV	C CHIP 16V 0.1UF	
C312	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C313	ECUV1A105ZHV	C CHIP 10V 1UF	
C315	ECUV1C104ZHV	C CHIP 16V 0.1UF	
C316	ECUE1H070DCQ	C CHIP 50V 7PF	
C317	ECUE1H070DCQ	C CHIP 50V 7PF	
C318	ECST0JZ106R	TANTALUM CHIP 6.3V 10UF	
C319	ECUV1C104KBV	C CHIP 16V 0.1UF	
C320	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C321	ECUV1C104ZHV	C CHIP 16V 0.1UF	
C322	ECUV1C104KBV	C CHIP 16V 0.1UF	
C323	ECUV1C475ZFM	C CHIP 16V 4.7UF	
C325	ECUV1C104ZHV	C CHIP 16V 0.1UF	
C401	ECUV1C104ZHV	C CHIP 16V 0.1UF (B)	
C402	ECST0JY106	TANTALUM CHIP 6.3V 10UF (B)	
C403	ECUV1C104ZHV	C CHIP 16V 0.1UF (B)	

Ref. No.	Part No.	Part Name& Description	Remarks
C404	ECST0JY106	TANTALUM CHIP 6.3V 10UF (B)	
C405	ECUV1C104ZFV	C CHIP 16V 0.1UF (B)	
C406	ECUV1C104ZFV	C CHIP 16V 0.1UF (B)	
C407	ECUV1C104ZFV	C CHIP 16V 0.1UF (B)	
C410	ECUV1C104ZFV	C CHIP 16V 0.1UF (B)	
C701	ECUV1A475ZFN	C CHIP 10V 4.7UF	
C702	ECUV1A475ZFN	C CHIP 10V 4.7UF	
C703	ECEV1CA220S	ELECTROLYTIC CHIP 16V 22UF	
C704	ECUV1A475ZFN	C CHIP 10V 4.7UF	
C705	ECUV1A475ZFN	C CHIP 10V 4.7UF	
C706	ECUV1A475ZFN	C CHIP 10V 4.7UF	
C707	ECUV1A475ZFN	C CHIP 10V 4.7UF	
C708	ECEV1CA220S	ELECTROLYTIC CHIP 16V 22UF	
C709	ECUV1C104ZFV	C CHIP 16V 0.1UF	
C710	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C712	ECUE1H102KBQ	C CHIP 50V 1000PF	
C713	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C714	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C725	ECUV1A105ZFV	C CHIP 10V 1UF	
C1101	VCUSQBA225KB	C CHIP 10V 2.2UF	
C1102	ECUE1H102KBQ	C CHIP 50V 1000PF	
C1103	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C1201	ECUV1C104KBV	C CHIP 16V 0.1UF	
C1202	ECUV1C104KBV	C CHIP 16V 0.1UF	
C1203	ECUV1C104KBV	C CHIP 16V 0.1UF	
C2001	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C2002	VCUSQBA225KB	C CHIP 10V 2.2UF	
C2003	ECUV1C104KBV	C CHIP 16V 0.1UF	
C2004	ECUV1C104KBV	C CHIP 16V 0.1UF	
C2005	ECUV1A105KBN	C CHIP 10V 1UF	
C2006	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C2007	ECUV1E183KBV	C CHIP 25V 0.018UF	
C2008	ECUV1H471KBN	C CHIP 50V 470PF	
C2010	ECUV1E183KBV	C CHIP 25V 0.018UF	
C2012	ECUV1E104KBN	C CHIP 25V 0.1UF	
C2013	ECUV1C104KBV	C CHIP 16V 0.1UF	
C2014	ECUV1C104KBV	C CHIP 16V 0.1UF	
C2016	ECUV1A105KBN	C CHIP 10V 1UF	
C2017	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C2018	ECUV1A105KBN	C CHIP 10V 1UF	
C2021	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C2022	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C2024	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C2027	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C2028	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C2029	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C2030	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C3001	ECUV1A105KBN	C CHIP 10V 1UF	
C3002	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3003	ECUV1A105KBN	C CHIP 10V 1UF	
C3004	ECST0GY226	TANTALUM CHIP 4V 22UF	
C3005	ECST0GY226	TANTALUM CHIP 4V 22UF	
C3006	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3007	ECUE1C103KBQ	C CHIP 16V 0.01UF	

Ref. No.	Part No.	Part Name& Description	Remarks
C3008	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3009	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3010	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3011	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3012	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3013	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3014	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3015	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3016	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3017	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3018	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3019	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3020	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3021	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3022	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3023	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3024	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3025	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3026	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3027	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3028	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3029	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3030	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3031	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3032	ERJ2GEJ152X	MGF CHIP 1/16W 1.5K	
C3033	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3034	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3035	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3036	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3037	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3038	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3039	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3040	ECUE1H180JCQ	C CHIP 50V 18PF	
C3042	ECUE1H180JCQ	C CHIP 50V 18PF	
C3103	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3104	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3105	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3106	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3108	ECST0JX476ZR	TANTALUM CHIP 6.3V 47UF	
C3109	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3110	ECEV0GA101S	ELECTROLYTIC CHIP 4V 100UF	
C3111	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3112	ECST1AY225	TANTALUM CHIP 10V 2.2UF	
C3113	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3114	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3115	ECUV1E104KBN	C CHIP 25V 0.1UF	
C3116	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3117	ECST1AY225	TANTALUM CHIP 10V 2.2UF	
C3118	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3119	ECEV0GA101S	ELECTROLYTIC CHIP 4V 100UF	
C3120	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C3121	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3122	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	
C3123	ECST0JY106	TANTALUM CHIP 6.3V 10UF	

Ref. No.	Part No.	Part Name& Description	Remarks
C3124	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3125	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3126	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3127	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3128	ECST0JY335	TANTALUM CHIP 6.3V 3.3UF	
C3129	ECUV1A105KBN	C CHIP 10V 1UF	
C3130	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3131	ECST0JY335	TANTALUM CHIP 6.3V 3.3UF	
C3132	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3133	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3134	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3135	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3136	ECUV1A105KBN	C CHIP 10V 1UF	
C3137	ECUV1A105KBN	C CHIP 10V 1UF	
C3138	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3139	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3140	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3141	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3142	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3143	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3202	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3203	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3204	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3205	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3206	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3207	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3208	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3209	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3211	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3213	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3215	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3217	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3218	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3220	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3221	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3222	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3223	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3226	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3227	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C3229	ECUE1H220JCQ	C CHIP 50V 22PF	
C3251	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3252	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3253	ECUE1H221KBQ	C CHIP 50V 220PF	
C3254	ECUV1A105KBN	C CHIP 10V 1UF	
C3255	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3256	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3257	ECST0GY226	TANTALUM CHIP 4V 22UF	
C3258	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C3259	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C4301	ECST0GX476	TANTALUM CHIP 4V 47UF	
C4302	ECUV1C104ZFV	C CHIP 16V 0.1UF	
C4307	ECST0GX476	TANTALUM CHIP 4V 47UF	
C4308	ECUV1C104ZFV	C CHIP 16V 0.1UF	
C4309	ECUV1C104ZFV	C CHIP 16V 0.1UF	

Ref. No.	Part No.	Part Name& Description	Remarks
C4310	ECST0GX476	TANTALUM CHIP 4V 47UF	
C4312	ECUV1C104ZFV	C CHIP 16V 0.1UF	
C5001	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C5002	ECST0JX476ZR	TANTALUM CHIP 6.3V 47UF	
C5003	ECUE1H330JCQ	C CHIP 50V 33PF	
C5004	ECUE1H681KBQ	C CHIP 50V 680PF	
C5005	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C5007	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C5009	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C5011	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C5012	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C6001	ECUV1C104KBV	C CHIP 16V 0.1UF	
C6002	ECUV1C104KBV	C CHIP 16V 0.1UF	
C6003	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C6004	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C6005	ECUE1H330JCQ	C CHIP 50V 33PF	
C6006	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C6007	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C6010	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C6011	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C6012	ECUV1C104KBV	C CHIP 16V 0.1UF	
C6013	ECUV1C104KBV	C CHIP 16V 0.1UF	
C6015	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C6016	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C6017	ECUV1C104KBV	C CHIP 16V 0.1UF	
C6019	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C6020	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C6021	ECUE1H100DCQ	C CHIP 50V 10UF	
C6022	ECUE1H100DCQ	C CHIP 50V 10UF	
C6023	ECUE1H101JCQ	C CHIP 50V 100PF	
C6024	ECUE1H030CCQ	C CHIP 50V 3PF	
C6025	ECUE1H030CCQ	C CHIP 50V 3PF	
C6029	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C6030	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C6031	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C6039	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
C6040	ECUE1C104ZFQ	C CHIP 16V 0.1UF	
C9001	ECA0JM471	ELECTROLYTIC 6.3V 470UF	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L301	LSLJDJA100KF	COIL CHIP 10UH	
L302	LSLJDJA100KF	COIL CHIP 10UH	
L303	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L304	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L305	LSLJDJA100KF	COIL CHIP 10UH	
L306	LSLJDJA220KF	COIL CHIP 22UH	
L401	LSLJDJA220KF	COIL CHIP 22UH (B)	
L402	LSLJDJA100KF	COIL CHIP 10UH (B)	
L403	LSLJDJA100KF	COIL CHIP 10UH (B)	
L701	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L3001	BK1608HM102	FERRITE CORE	
L3002	BK1608HM102	FERRITE CORE	
L3003	BK1608HM102	FERRITE CORE	
L3004	BK1608HM102	FERRITE CORE	
L3005	BK1608HS121T	BEAD INDUCTOR 120UH	
L3006	LSLJDJA100KF	COIL CHIP 10UH	
L3007	LSLJDJA100KF	COIL CHIP 10UH	
L3009	LSLJDJA100KF	COIL CHIP 10UH	
L3010	LSLJDJA470KF	COIL CHIP 47UH	
L3011	LSLJDJA100KF	COIL CHIP 10UH	
L3012	LSLJDJA100KF	COIL CHIP 10UH	
L3013	LSLJDJA100KF	COIL CHIP 10UH	
L3014	LSLJDJA100KF	COIL CHIP 10UH	
L3015	LSLJDJA100KF	COIL CHIP 10UH	
L3201	LSLJDJA100KF	COIL CHIP 10UH	
L3202	LSLJDJA100KF	COIL CHIP 10UH	
L3205	LSLJDJA100KF	COIL CHIP 10UH	
L3206	LSLJDJA100KF	COIL CHIP 10UH	
L3207	LSLJDJA100KF	COIL CHIP 10UH	
L4301	LSLJDJA100KF	COIL CHIP 10UH	
L4302	LSLJDJA100KF	COIL CHIP 10UH	
L5001	LSLJDJA101KF	BEAD INDUCTOR 100UH	
L5002	LSLJDJA100KF	COIL CHIP 10UH	
L5003	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L6001	LSLJDJA100KF	COIL CHIP 10UH	
L6002	VLP0363A102T	FERRITE BEAD CHIP	
L6003	VLP0363A102T	FERRITE BEAD CHIP	
L6004	VLP0363A102T	FERRITE BEAD CHIP	

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name& Description	Remarks
X301	LSSX0065	CRYSTAL OSCILLATOR	
X3001	LSSX0064	CRYSTAL OSCILLATOR	
X6002	LSSX0036	CRYSTAL OSCILLATOR	
X6003	LSSX0023	CRYSTAL OSCILLATOR	

PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
B1	LSJP01AF080B	CONNECTOR 80P	
B2	LSJS01AG030	CONNECTOR 30P	
B3	LSJS01AG020	CONNECTOR 20P	
P1	LSJS01KA003	CONNECTOR 3P	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP1	LSJS05AA008	CONNECTOR 8P	
FP2	LSJS05AA020	CONNECTOR 20P	
FP3	LSJS05AA010	CONNECTOR 10P	
FP4	LSJS05AA018	CONNECTOR 18P	
FP5	LSJS10AD012	CONNECTOR 12P	
FP6	LSJS05AA020	CONNECTOR 20P	
FP7	LSJS09AA040	CONNECTOR 40P	
FP8	LSJS05AA022	CONNECTOR 22P (B)	
FP9	LSJS09AA024	CONNECTOR 24P	
FP10	LSJS05AA022	CONNECTOR 22P	
FP11	LSJS05AA006	CONNECTOR 6P (A)	
FP301	LSJS05AA014	CONNECTOR 14P	
FP701	LSJS05AA022	CONNECTOR 22P	

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
722	VMTS0035M	CUSHION,RUBBER	
723	VMFS0138	SHEET,NYLON-RAYON	

12.3.2. POWER C.B.A

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC1001	BA9737KV	IC, LINEAR	
IC1002	NJM2380AFTE1	IC, LINEAR	
IC1003	NJM2380AFTE1	IC, LINEAR	
IC6501	ADM3202ARU	IC, RS232C DRIVER (A)	E.S.D.

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q1001	UN9111J	TRANSISTOR SI PNP CHIP	
Q1001	DTA114EE-TL	TRANSISTOR SI PNP CHIP	
Q1003	UN9115J	TRANSISTOR SI PNP CHIP	
Q1003	DTA114TE-TL	TRANSISTOR SI PNP CHIP	
Q1004	MPL1-TL	TRANSISTOR SI PNP CHIP	
Q1005	MPL1-TL	TRANSISTOR SI PNP CHIP	
Q1006	MPL1-TL	TRANSISTOR SI PNP CHIP	
Q1007	2SA204600L	TRANSISTOR SI PNP CHIP	
Q1007	CPH3115	TRANSISTOR SI PNP CHIP	
Q1008	XN09D6100L	TRANSISTOR SI PNP CHIP	
Q1008	CPH6702-TL	TRANSISTOR SI PNP CHIP	
Q1009	XN09D6100L	TRANSISTOR SI PNP CHIP	
Q1009	CPH6702-TL	TRANSISTOR SI PNP CHIP	
Q1010	2SC559200L	TRANSISTOR SI NPN CHIP	
Q1010	CPH3206-TL	TRANSISTOR SI NPN CHIP	
Q1018	2SA201000L	TRANSISTOR SI PNP CHIP	
Q1018	CPH3106	TRANSISTOR SI PNP CHIP	
Q1019	UN9212J	TRANSISTOR SI PNP CHIP	
Q1019	DTC124EE-TL	TRANSISTOR SI NPN CHIP	
Q1021	2SC559200L	TRANSISTOR SI NPN CHIP	
Q1021	CPH3206-TL	TRANSISTOR SI NPN CHIP	
Q1023	2SD2351T106V	TRANSISTOR SI NPN CHIP	
Q1023	2SD2351T106W	TRANSISTOR SI NPN CHIP	
Q1024	2SC559200L	TRANSISTOR SI NPN CHIP	
Q1024	CPH3206-TL	TRANSISTOR SI NPN CHIP	
Q1025	XP4501	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1026	2SB1462J	TRANSISTOR SI PNP CHIP	
Q1026	2SA1774(R)	TRANSISTOR SI PNP CHIP	
Q1027	2SC559200L	TRANSISTOR SI NPN CHIP	
Q1027	CPH3206-TL	TRANSISTOR SI NPN CHIP	
Q1028	2SD2216J	TRANSISTOR SI NPN CHIP	
Q1028	2SC4617(R)	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D1001	RD12S-T1B	DIODE ZENER CHIP 12V	
D1002	MA111	DIODE SI CHIP	
D1002	1SS355TE-17	DIODE SI CHIP	
D1003	MA111	DIODE SI CHIP	
D1003	1SS355TE-17	DIODE SI CHIP	
D1005	MA111	DIODE SI CHIP	
D1005	1SS355TE-17	DIODE SI CHIP	
D1007	RD12S-T1B	DIODE ZENER CHIP 12V	
D6503	MA2S728	DIODE SI CHIP (A)	
D6503	RB520S30TE61	DIODE SI CHIP (A)	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R1001	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R1002	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R1003	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1005	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1006	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R1007	VRJSD3D2702	MGF CHIP 1/16W 27K	
R1008	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R1009	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1010	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R1011	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R1012	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1013	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1014	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1015	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1016	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1017	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1018	ERJ2GEJ151X	MGF CHIP 1/16W 150	
R1019	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R1020	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R1021	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R1022	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R1023	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R1024	VRJSQ6D682Z	MGF CHIP 1/16W 6.8K	
R1025	VRJSQ6D820Z	MGF CHIP 1/16W 82	
R1026	VRJSQ6D820Z	MGF CHIP 1/16W 82	
R1027	VRJSQ6D302Z	MGF CHIP 1/16W 3K	
R1028	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1030	VRJSD3D2701	MGF CHIP 1/16W 2.7K	
R1031	VRJSQ6D820Z	MGF CHIP 1/16W 82	
R1032	VRJSQ6D820Z	MGF CHIP 1/16W 82	
R1033	VRJSD3D3001	MGF CHIP 1/16W 3K	
R1034	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1036	VRJSD3D6800	MGF CHIP 1/16W 680	
R1037	VRJSQ6D820Z	MGF CHIP 1/16W 82	
R1038	VRJSQ6D820Z	MGF CHIP 1/16W 82	
R1039	VRJSD3D3001	MGF CHIP 1/16W 3K	
R1040	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R1042	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R1043	VRJSQ6D273Z	MGF CHIP 1/16W 27K	
R1044	VRJSQ6D820Z	MGF CHIP 1/16W 82	
R1045	VRJSQ6D820Z	MGF CHIP 1/16W 82	
R1046	VRJSQ6D302Z	MGF CHIP 1/16W 3K	
R1047	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1048	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R1049	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R1050	VRJSQ6D272Z	MGF CHIP 1/16W 2.7K	
R1051	VRJSQ6D104Z	MGF CHIP 1/16W 100K	
R1063	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1064	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1065	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R1069	ERJ2GEJ271X	MGF CHIP 1/16W 270	
R1070	ERJ2GEJ470X	MGF CHIP 1/16W 47	
R1071	VRJSQ6D472Z	MGF CHIP 1/16W 4.7K	
R1072	VRJSQ6D153Z	MGF CHIP 1/16W 15K	

Ref. No.	Part No.	Part Name& Description	Remarks
R1073	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R1074	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R1075	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R1078	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R1079	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R1080	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R1081	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R1082	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R1085	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R1086	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1087	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1088	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1089	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1090	ERJ2GEJ151X	MGF CHIP 1/16W 150	
R1091	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1092	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6501	ERJ2GE0R00X	MGF CHIP 1/16W 0 (B)	
R6503	LSRJ0002	VARIABLE RESISTOR (A)	
R6503	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (B)	
R6504	LSRJ0002	VARIABLE RESISTOR (A)	
R6504	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (B)	
R6506	ERJ2GEJ103X	MGF CHIP 1/16W 10K (A)	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C1001	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C1002	ECUV0J474KBV	C CHIP 6.3V 0.47UF	
C1003	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C1004	ECUV1C104KBV	C CHIP 16V 0.1UF	
C1005	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C1006	ECUE1H101JCQ	C CHIP 50V 100PF	
C1007	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C1008	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1009	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C1010	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C1013	ECUE1E472KBQ	C CHIP 25V 4700PF	
C1016	ECUE1E472KBQ	C CHIP 25V 4700PF	
C1019	ECUE1H101JCQ	C CHIP 50V 100PF	
C1020	ECUE1H101JCQ	C CHIP 50V 100PF	
C1022	ECUE1H101JCQ	C CHIP 50V 100PF	
C1024	ECUE1H101JCQ	C CHIP 50V 100PF	
C1025	ECUE1H470JCQ	C CHIP 50V 47PF	
C1026	ECUE1H470JCQ	C CHIP 50V 47PF	
C1027	ECUE1H470JCQ	C CHIP 50V 47PF	
C1028	ECUE1H470JCQ	C CHIP 50V 47PF	
C1029	ECUV1C105ZFN	C CHIP 16V 1UF	
C1030	ECEV1CA220S	ELECTROLYTIC CHIP 16V 22UF	
C1032	VCUSQFC106KB	C CHIP 16V 10UF	
C1034	VCUSQBJ475KB	C CHIP 6.3V 4.7UF	
C1036	VCUSQBJ475KB	C CHIP 6.3V 4.7UF	
C1038	VCUSQBJ475KB	C CHIP 6.3V 4.7UF	
C1039	VCUSQBC105KB	C CHIP 16V 1UF	
C1040	VCUSQBH105ZF	C CHIP 50V 1UF	

Ref. No.	Part No.	Part Name& Description	Remarks
C1041	VCUSQBC105KB	C CHIP 16V 1UF	
C1042	VCUSQBC105KB	C CHIP 16V 1UF	
C1043	ECUE1H681KBQ	C CHIP 50V 680PF	
C1046	ECUE1H152KBQ	C CHIP 50V 1500PF	
C1048	ECUE1H222KBQ	C CHIP 50V 2200PF	
C1050	ECUE1H102KBQ	C CHIP 50V 1000PF	
C1051	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1053	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1055	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1056	ECUV1A105ZFW	C CHIP 10V 1UF	
C1057	ECUV1A105ZFW	C CHIP 10V 1UF	
C1058	ECUV1A105ZFW	C CHIP 10V 1UF	
C1059	ECUV1A105ZFW	C CHIP 10V 1UF	
C1060	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C1062	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1063	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1064	ECUV1A103ZFW	C CHIP 10V 1UF	
C1065	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C1067	ECUV1A105ZFW	C CHIP 10V 1UF	
C1068	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1069	ECST0JZ106R	TANTALUM CHIP 6.3V 10UF	
C1070	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1071	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C1072	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C1073	VCUSQBH105ZF	C CHIP 50V 1UF	
C1074	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1075	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1076	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1077	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1079	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C1080	ECUE1H103ZFW	C CHIP 50V 0.01UF	
C1081	ECUE1H103ZFW	C CHIP 50V 0.01UF	
C1082	ECUE1C103KBQ	C CHIP 16V 0.01UF	
C1084	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C1085	ECUE1A104KBQ	C CHIP 10V 0.1UF	
C1086	ECUE1A473KBQ	C CHIP 10V 0.047	
C1087	ECUV1E103KBV	C CHIP 25V 0.01UF	
C1088	ECST0JZ106R	TANTALUM CHIP 6.3V 10UF	
C6501	ECUV1A105KBN	C CHIP 10V 1UF (A)	
C6502	ECUV1C104KBV	C CHIP 16V 0.1UF (A)	
C6503	ECUV1C104KBV	C CHIP 16V 0.1UF (A)	
C6504	ECUV1C104KBV	C CHIP 16V 0.1UF (A)	
C6505	ECUV1C104KBV	C CHIP 16V 0.1UF (A)	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L1001	LSLQJ05S100M	CHOKE COIL 10UH	
L1002	LSLQJ05S100M	CHOKE COIL 10UH	
L1003	LSLQJ05S220M	COIL CHIP 22UH	
L1004	LSLQJ05S220M	COIL CHIP 22UH	
L1005	LSLQJ05S330M	COIL CHIP 33UH	
L1006	LSLQJ05S470M	COIL CHIP 47UH	
L1007	VLJW3TC4R7MT	CHIP 4.7UH	
L1008	LSLJDJA100KF	COIL CHIP 10UH	
L1009	LSLJCMA4R7MF	COIL CHIP 4.7UH	
L1010	LSLJDJA100KF	COIL CHIP 10UH	
L1011	LSLJDJA100KF	COIL CHIP 10UH	
L1012	VLJW3TC4R7MT	CHIP 4.7UH	
L1013	LSLJCMA4R7MF	COIL CHIP 4.7UH	
L1014	LSLJDJA100KF	COIL CHIP 10UH	
L1015	LSLJDJA100KF	COIL CHIP 10UH	
L1016	VLJW3TC4R7MT	CHIP 4.7UH	
L1017	VLJW3TC4R7MT	CHIP 4.7UH	
L1018	VLJW3TC4R7MT	CHIP 4.7UH	
L1019	VLQ0426J470	COIL CHIP 47UH	
L1020	VLQ0426J470	COIL CHIP 47UH	
L1021	VLQ0426J470	COIL CHIP 47UH	
L1027	LSLF0068	FERRITE BEADS CHIP	
L1028	LSLF0068	FERRITE BEADS CHIP	
L6501	ERJ3GEYJ821V	MGF CHIP 1/16W 820 (A)	
L6502	ERJ3GEYJ821V	MGF CHIP 1/16W 820 (A)	
L6503	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A)	
L6503	BK1608HM102	FERRITE CORE (B)	
L6504	LSLJDJA100KF	COIL CHIP 10UH (A)	
L6505	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (B)	
L6506	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (B)	
L6507	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (B)	

PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
B1	LSJS01AG080B	BOARD TO BOARD 80P	

FUSE& PROTECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
F1001	LSSF003C20T	FUSE 32V 2A	⚠
F1001	LSSF007C20T	FUSE 32V 2A	⚠
F1002	LSSF007C10T	FUSE 32V 1A	⚠
F1003	LSSF007C10T	FUSE 32V 1A	⚠

TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T1001	LSTP0112	TRANSFORMER	

JACKS

Ref. No.	Part No.	Part Name& Description	Remarks
JK1001	LSJH0032	BATTERY TERMINAL	
JK6501	LSJJ0137	MINI JACK SOCKET (A)	
JK6502	LSJJ0179	USB MINI JACK SOCKET (B)	

12.3.3. MICROPHONE UNIT/FRONT C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q4801	2SD1819A	TRANSISTOR SI NPN CHIP	
Q4801	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q4802	2SD1819A	TRANSISTOR SI NPN CHIP	
Q4802	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q4803	2SB1218A	TRANSISTOR SI PNP CHIP	
Q4803	2SA1576A106R	TRANSISTOR SI PNP CHIP	
Q4804	2SB1218A	TRANSISTOR SI PNP CHIP	
Q4804	2SA1576A106R	TRANSISTOR SI PNP CHIP	
Q4805	2SD1819A	TRANSISTOR SI NPN CHIP	
Q4805	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q4806	2SB1218A	TRANSISTOR SI PNP CHIP	
Q4806	2SA1576A106R	TRANSISTOR SI PNP CHIP	
Q4807	2SB1218A	TRANSISTOR SI PNP CHIP	
Q4807	2SA1576A106R	TRANSISTOR SI PNP CHIP	
Q4808	2SD1819A	TRANSISTOR SI NPN CHIP	
Q4808	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q4809	2SD1819A	TRANSISTOR SI NPN CHIP	
Q4809	2SC4081T106R	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D4803	MA143	DIODE SI CHIP (B)	
D4803	DA204U	DIODE SI CHIP (B)	
D6502	SLR7123A50AB	LIGHT EMITTING DIODE IR (B)	
D6503	SLR7123A50AB	LIGHT EMITTING DIODE IR (B)	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R4801	VRJSD3D3901	MGF CHIP 1/16W 3.9K	
R4802	VRJSD3D3901	MGF CHIP 1/16W 3.9K	
R4803	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4804	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R4805	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4806	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R4807	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R4808	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4809	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R4810	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4811	VRJSD3D1503	MGF CHIP 1/16W 150K	
R4812	VRJSD3D5602	MGF CHIP 1/16W 56K	
R4813	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4814	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4815	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R4816	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4817	ERJ3GEYJ471V	MGF CHIP 1/16W 470	
R4818	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R4819	VRJSD3D1503	MGF CHIP 1/16W 150K	
R4820	VRJSD3D5602	MGF CHIP 1/16W 56K	
R4821	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4822	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R4823	ERJ3GEYJ181V	MGF CHIP 1/16W 180	
R4824	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R4825	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R4827	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (B)	
R4828	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A)	
R4829	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A)	
R4830	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R4831	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R4832	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R4833	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R6502	ERJ3GEYJ560V	MGF CHIP 1/16W 56	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C4801	ECUV1H102KBV	C CHIP 50V 1000PF	
C4802	ECUV1H102KBV	C CHIP 50V 1000PF	
C4803	ECUV1H123KBV	C CHIP 50V 0.012UF	
C4804	ECUV1H123KBV	C CHIP 50V 0.012UF	
C4805	VCUSQBA105KB	C CHIP 10V 1UF	
C4806	ECUV1H102KBV	C CHIP 50V 1000PF	
C4807	ECST0JX226	TANTALUM CHIP 6.3V 22UH	
C4808	VCUSQBA105KB	C CHIP 10V 1UF	
C4809	ECUV1H102KBV	C CHIP 50V 1000PF	
C4810	ECST0JX226	TANTALUM CHIP 6.3V 22UH	
C4811	ECST0JX226	TANTALUM CHIP 6.3V 22UH	
C4812	ECUV1E103KBV	C CHIP 25V 0.01UF	
C4813	ECUV1H153KBV	C CHIP 50V 0.015UF	
C4814	ECUV1H153KBV	C CHIP 50V 0.015UF	
C4815	ECUV1E223KBV	C CHIP 25V 0.022UF	
C4816	ECUV1E223KBV	C CHIP 25V 0.022UF	
C4817	VCUSQBA105KB	C CHIP 10V 1UF	
C4818	VCUSQBA105KB	C CHIP 10V 1UF	
C6501	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C6502	ECUV1C104ZFV	C CHIP 16V 0.1UF	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L4801	BK1608LM751	FERRITE CORE (B)	
L4802	BK1608LM751	FERRITE CORE (B)	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP4801	LSJS05AA022	CONNECTOR 22P	

JACKS

Ref. No.	Part No.	Part Name& Description	Remarks
JK4801	LSJJ0142	STEREO MICROPHONE JACK SOCKET (B)	

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
701	LSEK0399	ELECTRIC CONDENSER MICROPHONE UNIT (A)	
701	LSEK0400	ELECTRIC CONDENSER MICROPHONE UNIT (B)	
U6501	RPM6937	INFRARED RECEIVER	
404	XQN2+BJ5FXK	SCREW,STEEL	
702	LSMD0282	MICROPHONE PIECE	
703	LSMG0079	FILTER OPTICAL	
704	LSMT0056	MICROPHONE CUSHION (A)	
704	LSMT0057	MICROPHONE CUSHION (B)	
705	LSJW0013	FLEXIBLE FLAT CABLE W/OUT PLUG,22P0.5MMP,50MM	

12.3.4. ELECTRONIC VIEWFINDER C.B.A. (Model: A)

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC901	AN2515NS-E1	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q902	2SD968A(S)	TRANSISTOR SI NPN CHIP	
Q903	2SB1218A	TRANSISTOR SI PNP CHIP	
Q903	2SA1576A106R	TRANSISTOR SI PNP CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D901	MA111	DIODE SI CHIP	
D901	1SS355TE-17	DIODE SI CHIP	
D902	SFPL-52V	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R901	ERJ3GEYJ270V	MGF CHIP 1/16W 27	
R904	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R905	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R906	VRJSD3D1302V	MGF CHIP 1/16W 13K	
R907	VRJSD3D1203V	MGF CHIP 1/16W 120K	
R908	ERJ3GEYJ514V	MGF CHIP 1/16W 510K	
R909	ERJ3GEYJ242V	MGF CHIP 1/16W 2.4K	
R911	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R914	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R915	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R916	VRJSD3D3302	MGF CHIP 1/16W 33K	
R921	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R922	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R923	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R924	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R925	ERJ3GEYJ105V	MGF CHIP 1/16W 1M	
R926	ERJ3GEYJ3R9V	MGF CHIP 1/16W 3.9	
R927	ERJ6GEYJ105V	MGF CHIP 1/10W 1M	
R928	ERJ6GEYJ106V	MGF CHIP 1/10W 10M	
R929	ERJ6GEYJ106V	MGF CHIP 1/10W 10M	
R930	ERJ6GEYJ185V	MGF CHIP 1/10W 1.8M	
R932	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R933	ERJ6GEYJ185V	MGF CHIP 1/10W 1.8M	
R934	ERJ6GEYJ185V	MGF CHIP 1/10W 1.8M	
R936	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
VR901	EVM7JSX30BE2	VARIABLE CHIP 220	

Ref. No.	Part No.	Part Name& Description	Remarks
VR902	LSRV0002	VARIABLE CHIP 5M	
VR903	EVM7ESX30B26	VARIABLE CHIP 2M	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C902	ECUV1H123KBV	C CHIP 50V 0.012UF	
C903	VCUSQBA105KB	C CHIP 10V 1UF	
C904	EEAFC0J101H	ELECTROLYTIC 6.3V 100UF	
C905	VCUSQBA105KB	C CHIP 10V 1UF	
C906	ECUV0J225KBN	C CHIP 6.3V 2.2UF	
C907	ECQV1H104JM2	POLYESTER 50V 0.1UF	
C909	EEAFC0J101H	ELECTROLYTIC 6.3V 100UF	
C910	ECUV1H820JCV	C CHIP 50V 82PF	
C911	MCUV2A332JUM	C CHIP 100V 3300PF	⚠
C912	ECST1AX226	TANTALUM CHIP 10V 22UF	
C913	EEAFC1C470H	ELECTROLYTIC 16V 47UF	
C914	ECUV1C104KBV	C CHIP 16V 0.1UF	
C915	ECUV1E104KBN	C CHIP 25V 0.1UF	
C916	LSCUEA6102KB	C CHIP 630V 1000PF	⚠
C917	ECEA1HKS010I	ELECTROLYTIC 50V 1UF	
C918	ECKD2H331KB5	CERAMIC 500V 330PF	⚠

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L901	VLQ0319K220	COIL CHIP 22UH	
L902	ELH5L3111	COIL	⚠

PIN HEADERS

Ref. No.	Part No.	Part Name& Description	Remarks
P902	VJPW0004J1	PIN HEADER 4P	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP901	LSJS05AA006	FPC CONNECTOR	

FUSE& PROTECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
PR901	LSSF003C06T	FUSE 32V	

TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T901	ECXC2803E	TRANSFORMER	

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
711	LSEK0372	CRT SOCKET UNIT	
712	ELY05V578G	DEFLECTION YOKE	▲
713	M01LSX07WB01	CRT	▲
714	LSJB8107	FLEXIBLE PRINTED CABLE W/PLUG,DC 5V	

12.3.5. COLOR ELECTRONIC VIEWFINDER C.B.A. (Model: B)

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC901	AN2540FHQ	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q901	2SD1819A	TRANSISTOR SI NPN CHIP	
Q901	2SC4081T106R	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D901	NSCW100	LIGHT EMITTING DIODE	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R901	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R902	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R903	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R904	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R905	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R906	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R907	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R908	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R909	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R910	ERJ3GEYJ622V	MGF CHIP 1/16W 6.2K	
R911	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R912	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R913	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R914	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R915	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R916	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R917	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R918	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R919	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R920	ERJ3GEYJ220V	MGF CHIP 1/16W 22	
R921	VRJSD3D2702	MGF CHIP 1/16W 27K	
R922	VRJSD3D5601	MGF CHIP 1/16W 5.6K	
R923	VRJSD3D2202	MGF CHIP 1/16W 22K	
R925	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R926	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R927	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R928	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C901	NMA0J226MTR	ELECTROLYTIC CHIP 6.3V 22UF	
C902	ECUV1C104KBV	C CHIP 16V 0.1UF	
C903	ECUV1C104KBV	C CHIP 16V 0.1UF	
C904	ECUV1C104KBV	C CHIP 16V 0.1UF	
C906	ECUV1H152KBV	C CHIP 50V 1500PF	
C907	ECUV0J225KBN	C CHIP 6.3V 2.2UF	
C908	VCUSQAC225KB	C CHIP 16V 2.2UF	
C909	ECUV1C104KBV	C CHIP 16V 0.1UF	
C911	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C912	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C913	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C915	ECUV1C104KBV	C CHIP 16V 0.1UF	
C916	ECUV1H103KBV	C CHIP 50V 0.01UF	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L901	VLQ0426J150	COIL CHIP 15UH	
L903	VLQ0426J150	COIL CHIP 15UH	
L904	ERJ6GEY0R00V	MGF CHIP 1/10W 0	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP901	LSJS05AA022	CONNECTOR 22P	
FP902	LSJS05AA016	CONNECTOR 16P	

12.3.6. LIQUID CRYSTAL DISPLAY C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name& Description	Remarks
IC8001	AN2540FHQ	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
Q8001	UN5212	TRANSISTOR SI NPN CHIP	
Q8001	DTC124EUA106	TRANSISTOR SI NPN CHIP	
Q8002	2SB1462J	TRANSISTOR SI PNP CHIP	
Q8002	2SA1774(R)	TRANSISTOR SI PNP CHIP	
Q8003	UN5212	TRANSISTOR SI NPN CHIP	
Q8003	DTC124EUA106	TRANSISTOR SI NPN CHIP	
Q8004	2SB1462J	TRANSISTOR SI PNP CHIP	
Q8004	2SA1774(R)	TRANSISTOR SI PNP CHIP	
Q8005	2SD1819A	TRANSISTOR SI NPN CHIP	
Q8005	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q8006	2SD1819A	TRANSISTOR SI NPN CHIP	
Q8006	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q8007	UN5212	TRANSISTOR SI NPN CHIP	
Q8007	DTC124EUA106	TRANSISTOR SI NPN CHIP	
Q8008	2SB1462J	TRANSISTOR SI PNP CHIP	
Q8008	2SA1774(R)	TRANSISTOR SI PNP CHIP	
Q8009	2SD1819A	TRANSISTOR SI NPN CHIP	
Q8009	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q8010	UN5114	TRANSISTOR SI PNP CHIP	
Q8010	DTA114YUA106	TRANSISTOR SI PNP CHIP	
Q8011	UN5212	TRANSISTOR SI NPN CHIP	
Q8011	DTC124EUA106	TRANSISTOR SI NPN CHIP	
Q8012	XP4601	TRANSISTOR COMPLX CMP SI NPN/PNP CHIP	
Q8013	UN5114	TRANSISTOR SI PNP CHIP (B)	
Q8013	DTA114YUA106	TRANSISTOR SI PNP CHIP (B)	
Q8014	XP4601	TRANSISTOR COMPLX CMP SI NPN/PNP CHIP	
Q8015	UN5212	TRANSISTOR SI NPN CHIP (B)	
Q8015	DTC124EUA106	TRANSISTOR SI NPN CHIP (B)	
Q8104	2SD1119	TRANSISTOR SI NPN CHIP	
Q8104	2SD2150T100R	TRANSISTOR SI NPN CHIP	
Q8105	2SD1119	TRANSISTOR SI NPN CHIP	
Q8105	2SD2150T100R	TRANSISTOR SI NPN CHIP	
Q8106	2SD1819A	TRANSISTOR SI NPN CHIP	
Q8106	2SC4081T106R	TRANSISTOR SI NPN CHIP	
Q8107	2SD1819A	TRANSISTOR SI NPN CHIP	
Ref. No.	Part No.	Part Name& Description	Remarks
Q8107	2SC4081T106R	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D8001	MA8068-L	DIODE ZENER CHIP 6.8V	
D8101	MA3J741E0L	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R8001	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8003	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8004	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8005	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8007	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8008	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8009	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8010	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8011	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8012	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8013	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8014	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8016	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R8017	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8019	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R8021	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8022	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R8023	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8024	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R8025	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R8027	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8028	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8029	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8033	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8034	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8035	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8036	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8037	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8038	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8039	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8040	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A)	
R8041	ERJ3GEYJ333V	MGF CHIP 1/16W 33K (B)	
R8044	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R8045	ERJ3GEYJ563V	MGF CHIP 1/16W 56K (A)	
R8045	ERJ3GEYJ473V	MGF CHIP 1/16W 47K (B)	
R8046	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8047	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8049	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R8104	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R8105	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R8106	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R8108	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8109	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8110	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8111	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	

CAPACITORS

Ref. No.	Part No.	Part Name& Description	Remarks
C8001	ECUV1C474KBN	C CHIP 16V 0.47UF (A)	
C8001	ECUV1E104KBN	C CHIP 25V 0.1UF (B)	
C8002	ECUV1C104KBV	C CHIP 16V 0.1UF	
C8003	ECUV1C104KBV	C CHIP 16V 0.1UF	
C8004	ECUV1C104KBV	C CHIP 16V 0.1UF	
C8005	NMA0J226MTR	ELECTROLYTIC CHIP 6.3V 22UF	
C8006	ECUE1H103KBV	C CHIP 50V 0.01UF	
C8007	ECST1CY475	TANTALUM CHIP 16V 4.7UF	
C8008	ECUV1C104KBV	C CHIP 16V 0.1UF	
C8009	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C8010	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C8011	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C8012	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C8013	ECUV1H152KBV	C CHIP 50V 1500PF	
C8014	ECUV0J225KBN	C CHIP 6.3V 2.2UF	
C8015	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C8016	VCUSQAC225KB	C CHIP 16V 2.2UF	
C8017	ECUV1C225ZFN	C CHIP 16V 2.2UF	
C8019	ECUV1C104KBV	C CHIP 16V 0.1UF	
C8107	ECUV1A106KBP	C CHIP 10V 10UF	
C8108	ECHU1H333JB5	C CHIP 50V 0.033UF	
C8109	LSCUCAD150J	C CHIP 2KV 15PF	
C8110	LSCUCAD150J	C CHIP 2KV 15PF	
C8113	ECUV1C104KBV	C CHIP 16V 0.1UF (A)	
C8114	ECUV0J105KBV	C CHIP 6.3V 1UF	
C8115	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C8116	ECUV1C104ZFV	C CHIP 16V 0.1UF	
C8117	VCUSQBC105KB	C CHIP 16V 1UF	
C8118	ECUV1C104ZFV	C CHIP 16V 0.1UF	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L8001	VLQ0426J150	COIL CHIP 15UH	
L8002	VLQ0426J150	COIL CHIP 15UH	
L8003	VLQ0426J150	COIL CHIP 15UH	
L8004	VLQ0426J150	COIL CHIP 15UH	
L8005	VLQ0426J150	COIL CHIP 15UH	
L8103	SLF6028T680M	CHOKE COIL 68UH	
L8104	LSLQK05S100M	CHOKE COIL 10UH	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP8001	LSJSQG25DG	CONNECTOR 26P	
FP8002	LSJSRF24DG	CONNECTOR 24P (A)	
FP8003	LSJSRF24DG	CONNECTOR 24P (B)	

TRANSFORMER

Ref. No.	Part No.	Part Name& Description	Remarks
T8101	ETJ11K94AM	TRANSFORMER	

MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
721	VMZW0660	INSULATION SHEET,PLASTIC	

12.3.7. JACK C.B.A.

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D3701	MA147	DIODE SI CHIP	
D3702	MA147	DIODE SI CHIP	
D3706	MAZT068H0L	DIODE ZENER CHIP 6.8V	
D3706	DF3A6.8FE	DIODE ZENER CHIP 6.8V	
D3707	MAZT068H0L	DIODE ZENER CHIP 6.8V	
D3707	DF3A6.8FE	DIODE ZENER CHIP 6.8V	
D3708	MAZT068H0L	DIODE ZENER CHIP 6.8V	
D3708	DF3A6.8FE	DIODE ZENER CHIP 6.8V	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L3701	MMZ1608D301B	COIL 300UH	
L3702	MMZ1608D301B	COIL 300UH	
L3703	BK1608HM102	FERRITE CORE	
L3704	BK1608HM102	FERRITE CORE	
L3705	BK1608HM102	FERRITE CORE	
L3710	MMZ1608D301B	COIL 300UH	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP3701	LSJS09AA015	CONNECTOR 15P	

JACKS

Ref. No.	Part No.	Part Name& Description	Remarks
JK3701	LSJJ0162	AUDIO/VIDEO JACK SOCKET	
JK3702	VJJW0066	PHONE JACK SOCKET	
JK3703	LSJJ0178	DV JACK SOCKET	

12.3.8. S-JACK C.B.A.

DIODES

Ref. No.	Part No.	Part Name& Description	Remarks
D3751	RD6.2S	DIODE ZENER CHIP 6.2V	
D3752	MAZT068H0L	DIODE ZENER CHIP 6.8V	
D3752	DF3A6.8FE	DIODE ZENER CHIP 6.8V	
D3755	RD6.2S	DIODE ZENER CHIP 6.2V	
D3756	RD6.2S	DIODE ZENER CHIP 6.2V	

RESISTORS

Ref. No.	Part No.	Part Name& Description	Remarks
R3751	ERJ3GEYJ561V	MGF CHIP 1/16W 560	
R3752	ERJ3GEYJ331V	MGF CHIP 1/16W 330	

COILS

Ref. No.	Part No.	Part Name& Description	Remarks
L3751	BK1608HM102	FERRITE CORE	
L3752	BK1608HM102	FERRITE CORE	

FPC CONNECTOR

Ref. No.	Part No.	Part Name& Description	Remarks
FP3751	LSJS05AA006	CONNECTOR 6P	

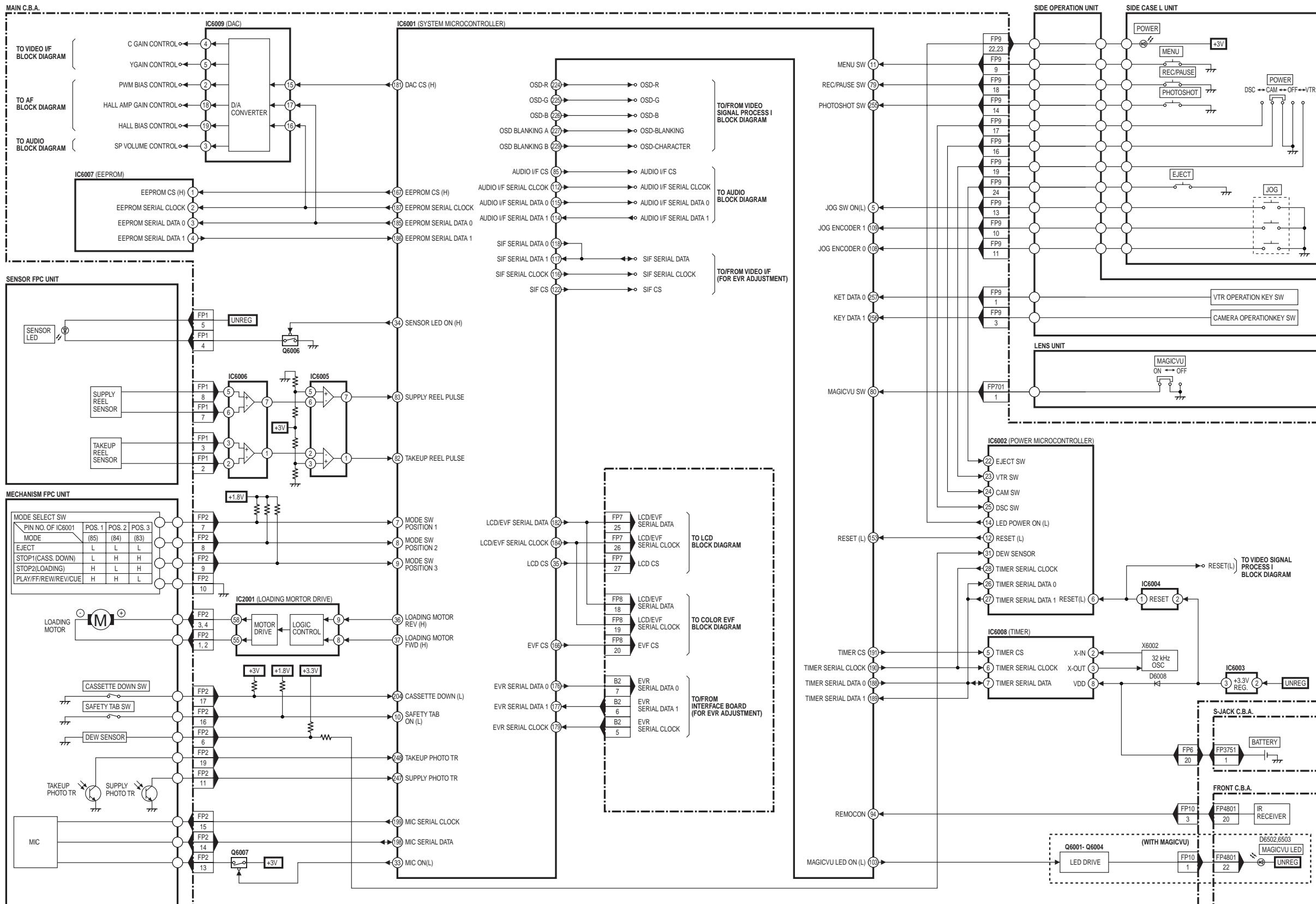
JACKS

Ref. No.	Part No.	Part Name& Description	Remarks
JK3751	LSJJ0150	S-VIDEO JACK SOCKET	

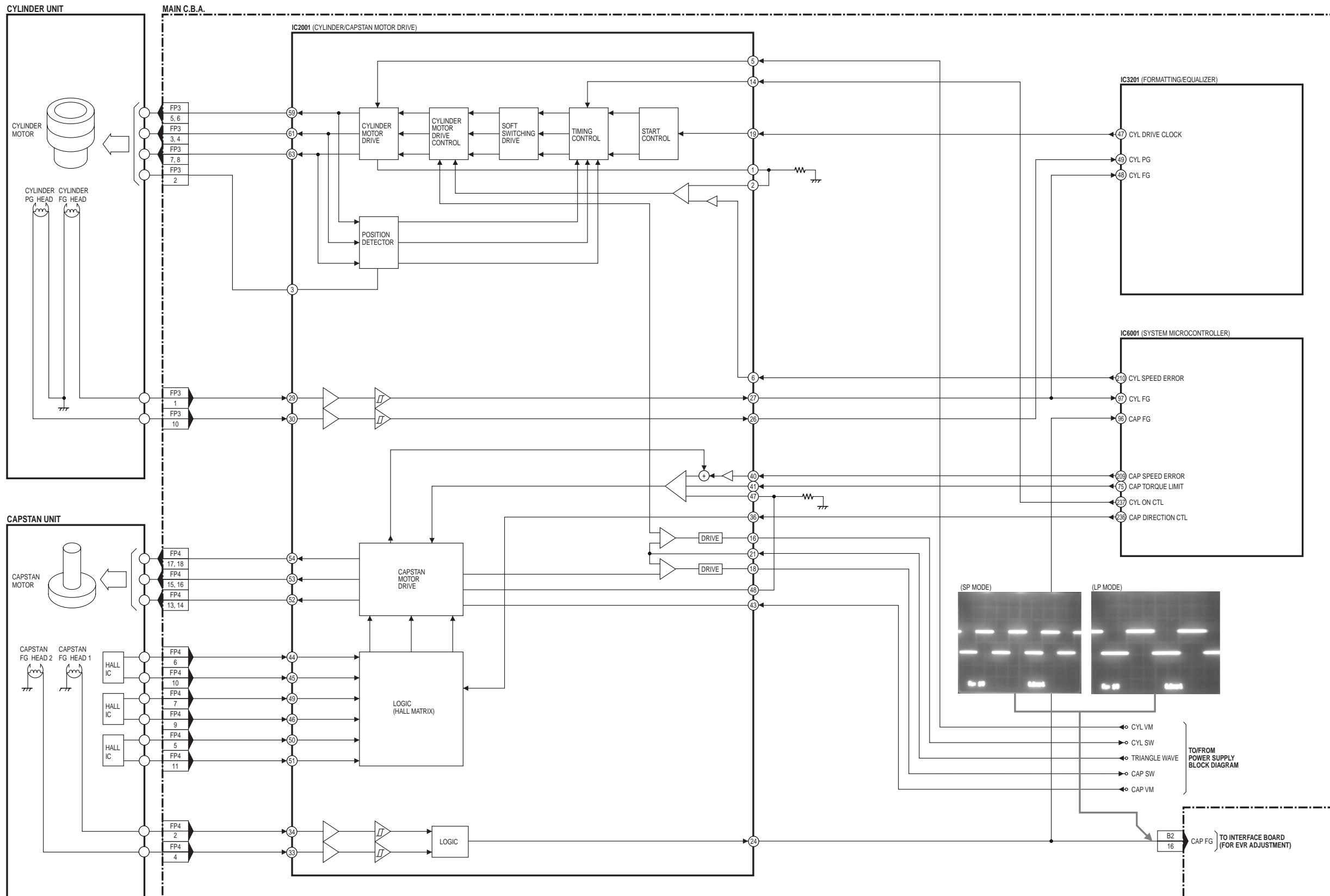
MISCELLANEOUS

Ref. No.	Part No.	Part Name& Description	Remarks
731	LSSB0004	BATTERY	

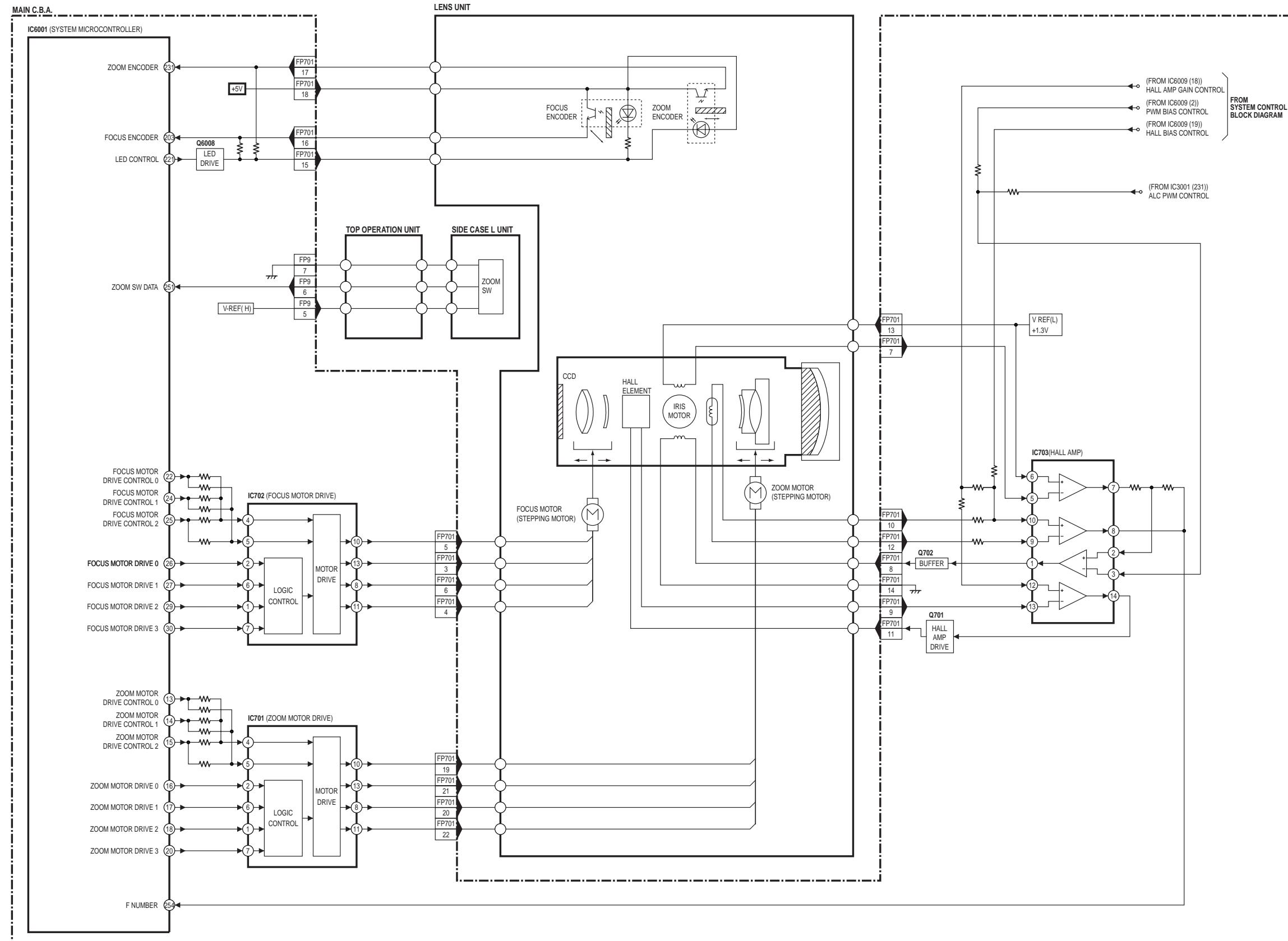
SYSTEM CONTROL BLOCK DIAGRAM



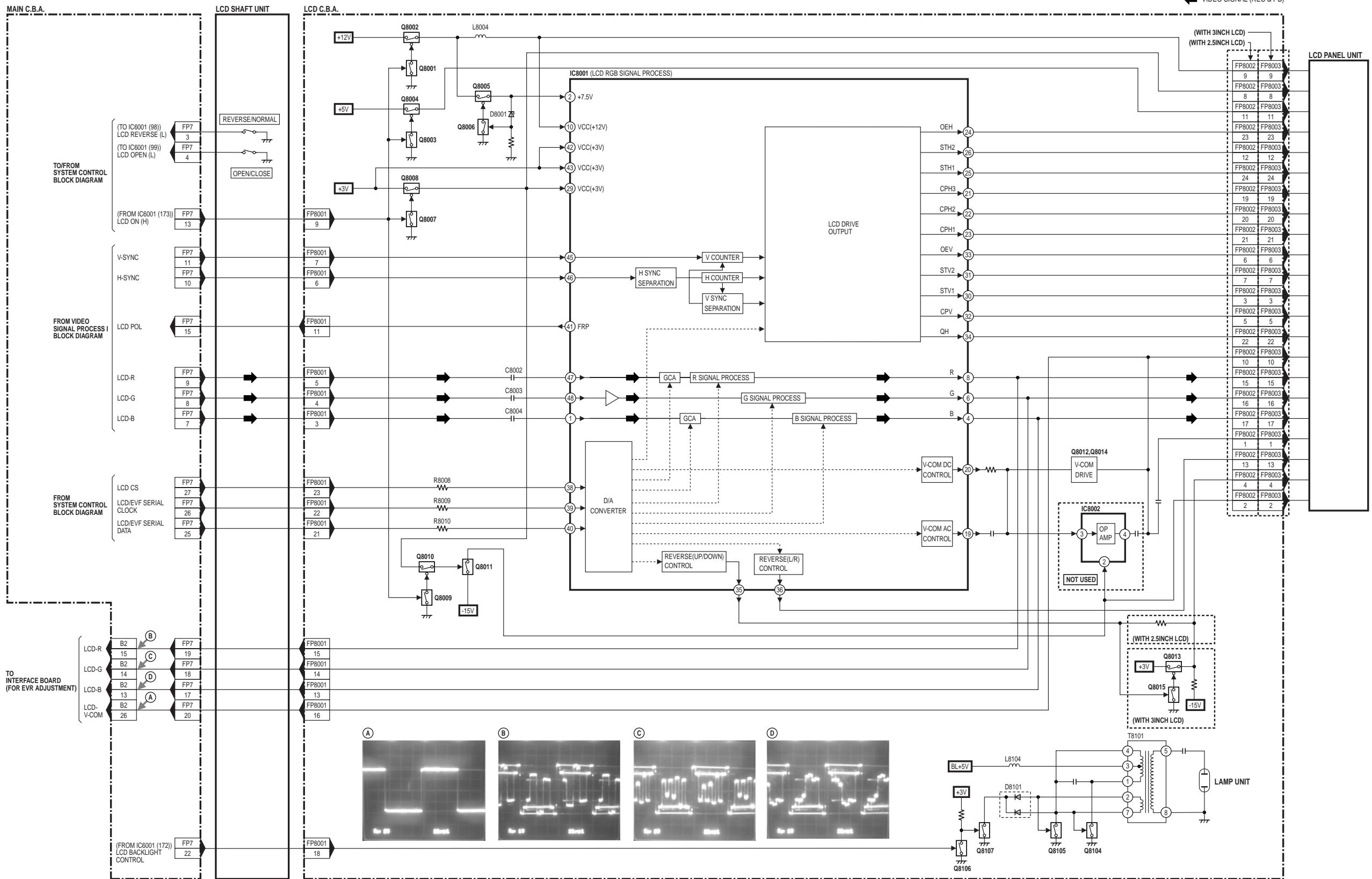
SERVO BLOCK DIAGRAM



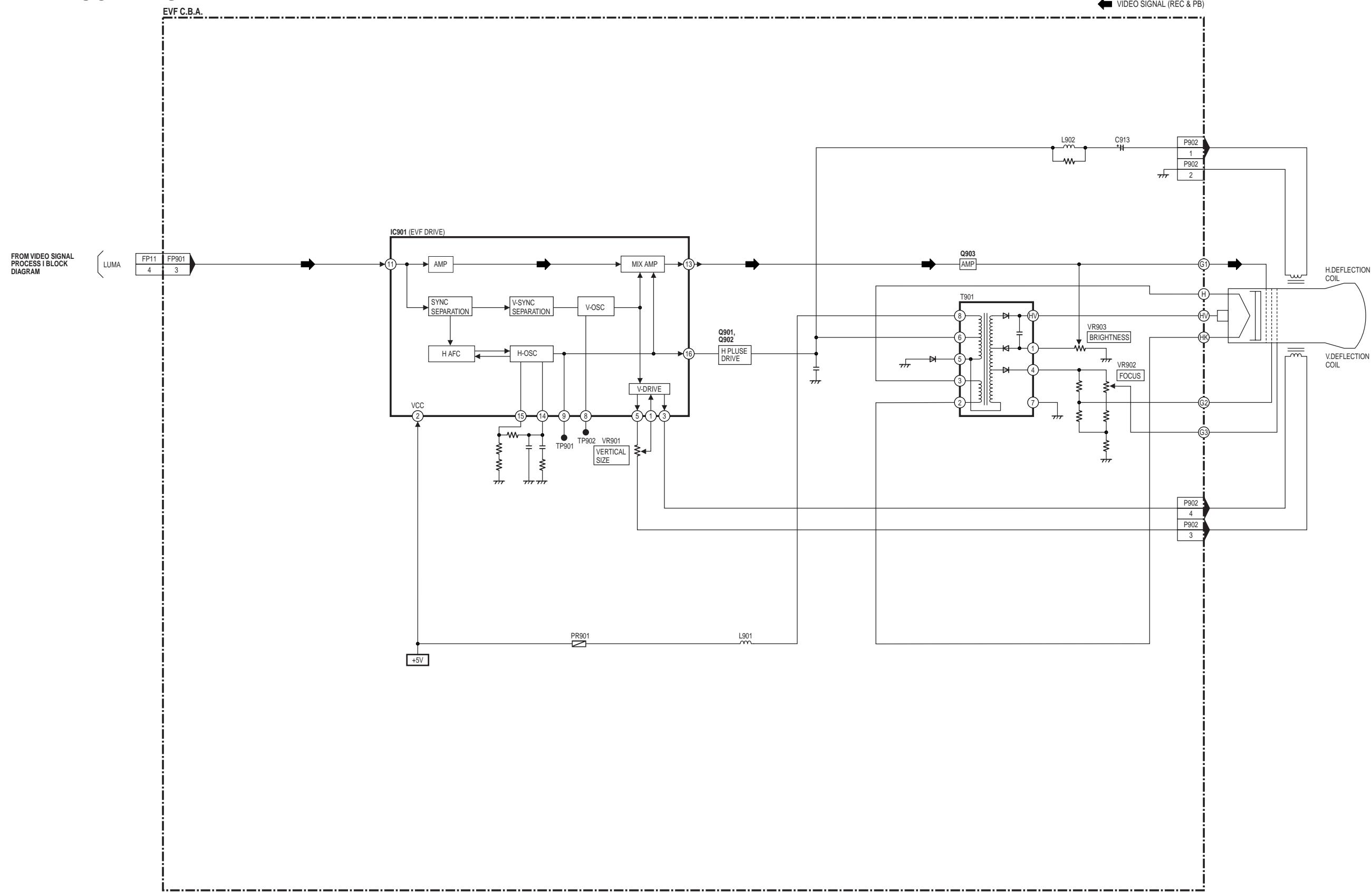
AF BLOCK DIAGRAM



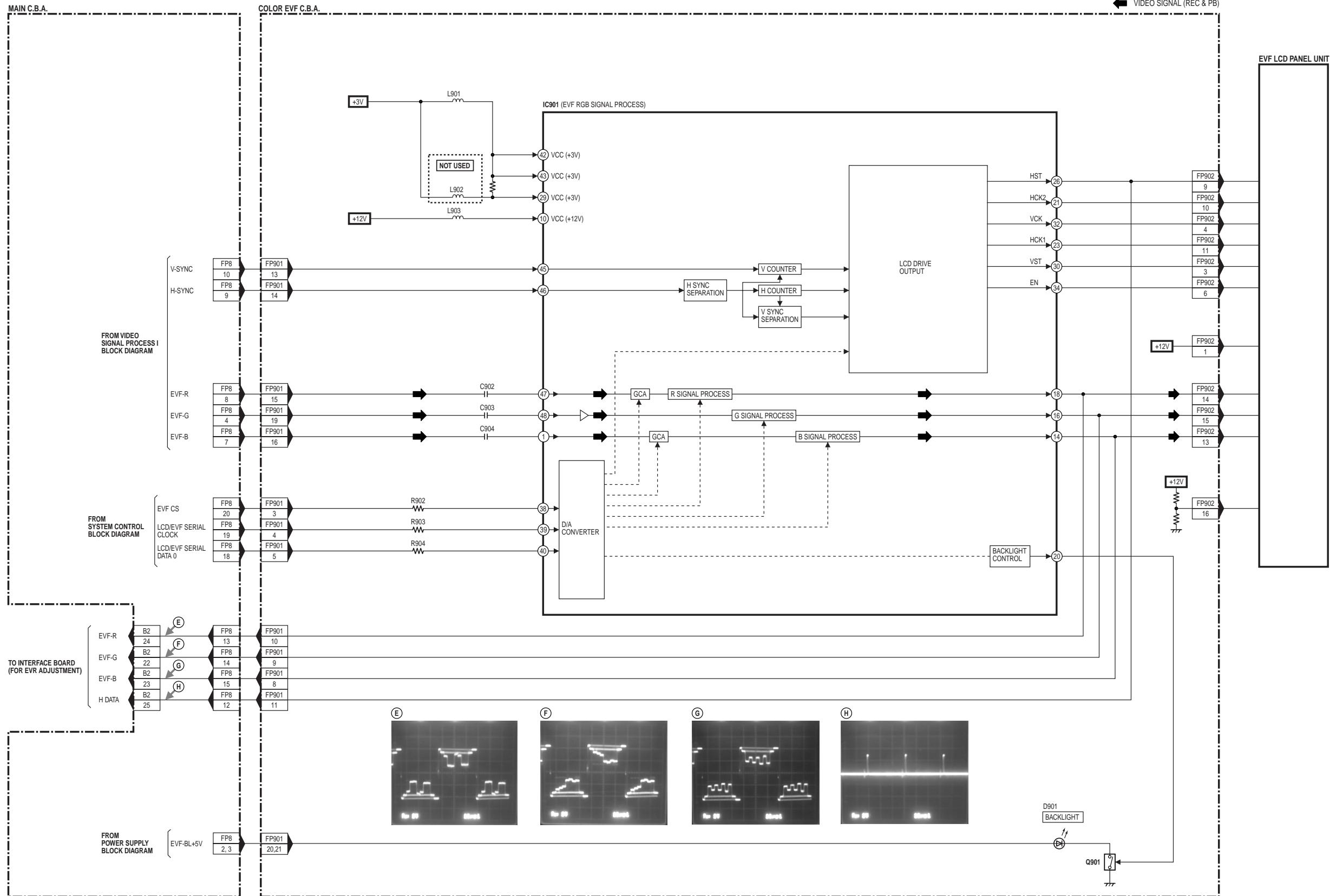
LCD BLOCK DIAGRAM



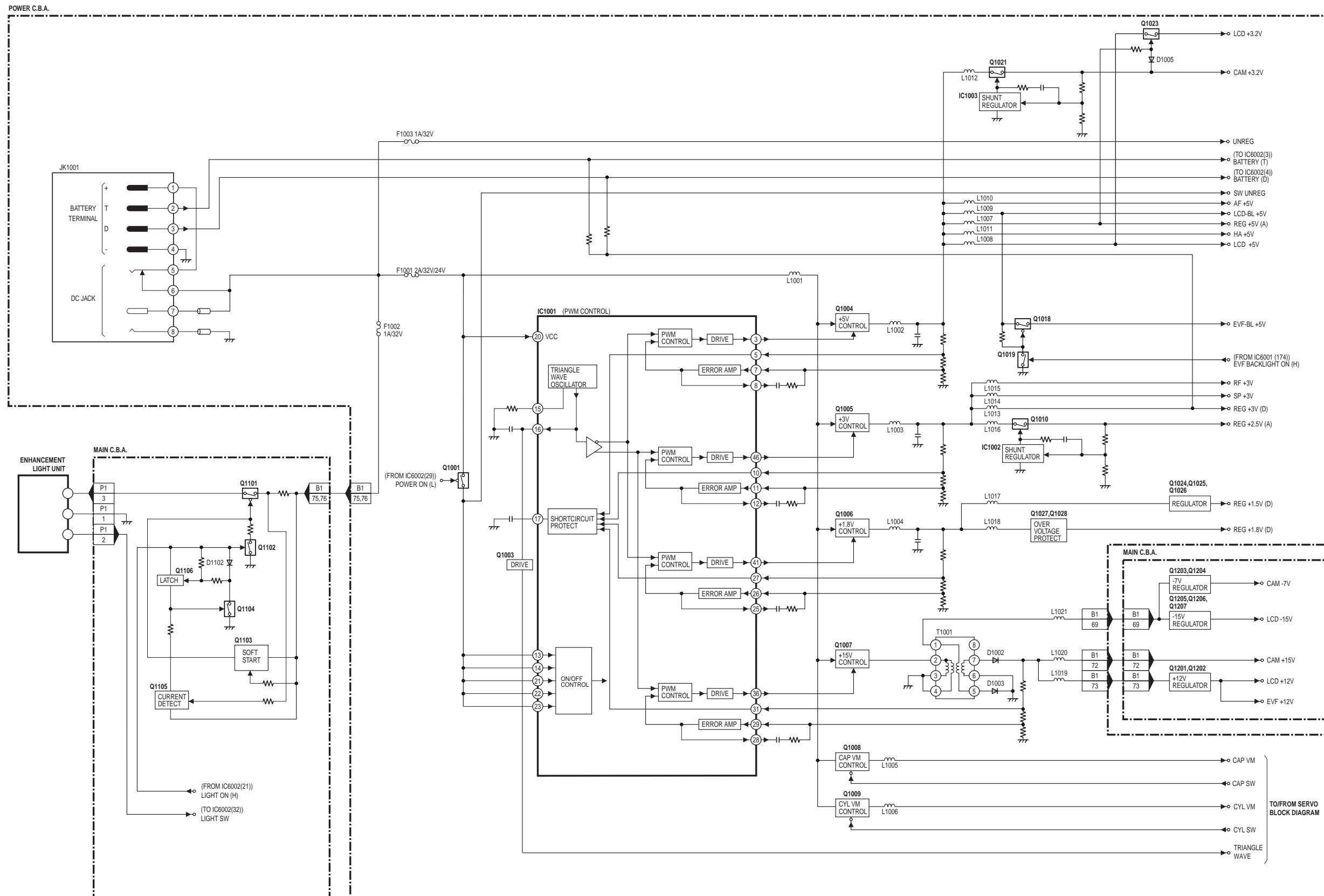
EVF BLOCK DIAGRAM



COLOR EVF BLOCK DIAGRAM



POWER SUPPLY BLOCK DIAGRAM



MAIN C.B.A. LSEP8085A1 (A) / LSEP8085C1 (B)

COMPARISON CHART
OF MODELS & MARKS

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

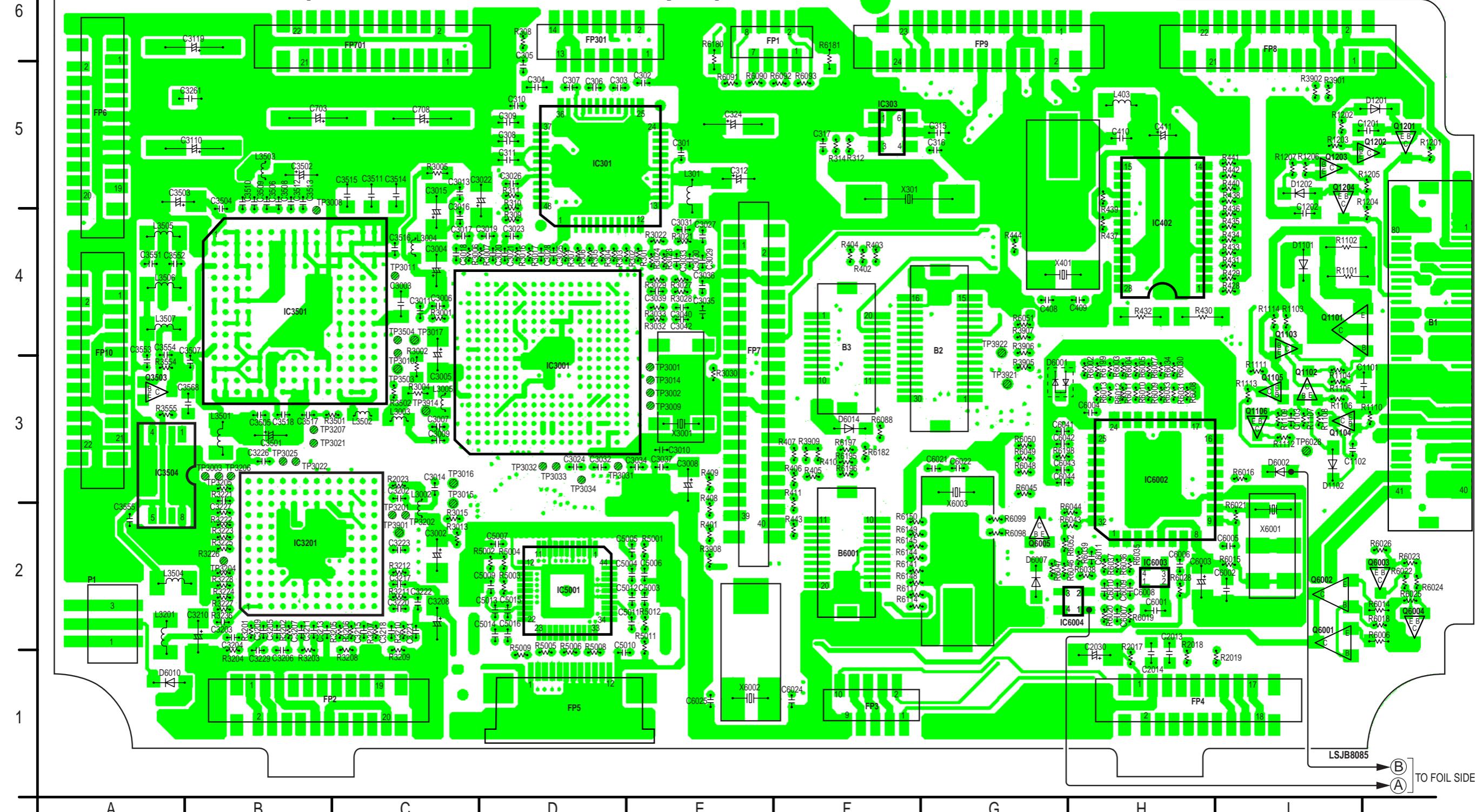
NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN
FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATTERNS ARE SINGLE PATTERN FOR EACH
SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

MODEL	MARK
PV-DV101	A
PV-DV401	B

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

(COMPONENT SIDE)



NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN	
TRANSISTOR	
Q1101	I-4
Q1102	I-3
Q1103	I-4
Q1104	I-3
Q1105	I-3
Q1106	I-3
Q1201	J-5
Q1202	J-5
Q1203	I-5
Q1204	I-5
Q3503	A-3
Q6001	I-1
Q6002	I-2
Q6003	J-2
Q6004	J-2
Q6005	G-2

MAIN	
IC	
IC3001	D-3
IC301	D-5
IC303	F-5
IC3201	B-2
IC3501	B-4
IC3504	A-3
IC402	H-4
IC5001	D-2
IC6002	H-3
IC6003	H-2
IC6004	H-2

MAIN	
TEST POINT	
TP3001	E-3
TP3002	E-3
TP3003	B-3
TP3007	B-3
TP3008	B-5
TP3009	E-3
TP3010	C-3
TP3011	C-4
TP3014	E-3
TP3015	C-3
TP3016	C-3
TP3017	C-4
TP3021	B-3
TP3022	B-3
TP3025	B-3
TP3031	D-3
TP3032	D-3
TP3033	D-3
TP3034	D-3
TP3201	C-2
TP3202	C-2
TP3204	B-2
TP3205	B-3
TP3206	B-3
TP3503	C-3
TP3504	C-4
TP3901	C-2
TP3914	C-3
TP3921	G-3
TP3922	G-4
TP6028	I-3

MAIN	
CONNECTOR	
FP1	E-6
FP10	A-4
FP2	B-1
FP3	F-1
FP301	D-6
FP4	H-1
FP5	D-1
FP6	A-5
FP7	E-4
FP701	C-6
FP8	I-6
FP9	G-6

(COMPONENT SIDE)
LEADLESS COMPONENT PARTS LOCATION GUIDE

MAIN C.B.A.

C1101	J-3	C3032	D-3	C3227	B-3	C5012	E-2	L3201	A-2	R3007	D-4	R3211	C-2	R435	I-4	R6023	J-2	R6182	F-3
C1102	I-3	C3033	E-4	C3229	B-1	C5013	D-2	L3501	B-3	R301	E-4	R3212	C-2	R436	I-4	R6024	J-2	R6195	F-3
C1103	I-3	C3034	E-3	C324	E-5	C5014	D-2	L3502	C-3	R3013	C-2	R3221	B-3	R437	H-4	R6025	J-2	R6196	F-3
C1201	J-5	C3035	E-4	C3261	B-5	C5015	D-2	L3503	B-5	R3015	C-2	R3222	B-2	R438	I-5	R6026	J-2	R6197	F-3
C1202	I-4	C3036	E-4	C3501	B-3	C5016	D-2	L3504	A-2	R3016	D-4	R3223	B-2	R439	H-5	R6030	H-3	R6198	G-3
C2013	H-1	C3037	E-3	C3502	B-5	C6001	H-2	L3505	A-4	R3017	D-4	R3224	B-2	R440	I-5	R6031	H-3	R6199	H-3
C2014	H-1	C3039	E-4	C3503	A-5	C6002	I-2	L3506	A-4	R302	E-4	R3225	B-2	R441	I-5	R6033	H-3		
C2030	H-1	C304	D-5	C3504	B-5	C6003	H-2	L3507	A-4	R3021	E-4	R3226	B-2	R442	I-5	R6034	H-3		
C3002	C-2	C305	D-5	C3505	B-3	C6004	H-3	L403	H-5	R3022	E-4	R3227	B-2	R443	F-2	R6035	H-2		
C3003	C-4	C306	D-5	C3506	B-5	C6005	I-2	R1101	I-4	R3023	E-4	R3228	B-2	R444	G-4	R6036	H-2		
C3004	C-4	C307	D-5	C3507	B-3	C6006	H-2	R1102	I-4	R3024	E-4	R3236	B-2	R5001	E-2	R6037	H-2		
C3005	C-3	C308	D-5	C3508	B-5	C6007	H-2	R1103	I-4	R3027	E-4	R3501	B-3	R5002	D-2	R6038	H-2		
C3006	C-4	C309	D-5	C3509	B-5	C6008	H-2	R1104	I-4	R3028	E-4	R3502	C-3	R5003	D-2	R6039	H-2		
C3007	C-3	C310	D-5	C3510	B-5	C6009	H-2	R1104	I-3	R3029	E-4	R3554	A-3	R5004	D-2	R6043	H-2		
C3008	E-3	C311	D-5	C3511	C-5	C6010	H-2	R1105	I-3	R303	D-4	R3555	A-3	R5005	D-1	R6044	H-2		
C3009	C-3	C310	B-5	C3512	B-5	C6011	H-2	R1106	I-3	R3030	E-3	R3901	I-5	R5006	D-1	R6045	G-3		
C301	E-5	C3119	B-6	C3513	B-5	C6021	G-3	R1107	I-3	R3032	E-4	R3902	I-5	R5008	D-1	R6046	G-2		
C3010	E-3	C312	E-5	C3514	C-5	C6022	G-3	R1108	I-3	R3033	E-4	R3905	G-3	R5009	D-1	R6047	G-2		
C3011	C-4	C315	G-5	C3515	C-5	C6024	F-1	R1109	I-3	R304	D-4	R3906	G-4	R5011	E-2	R6048	G-3		
C3013	C-5	C316	G-5	C3516	C-4	C6025	E-1	R1110	I-3	R3040	E-4	R3907	G-4	R5012	E-2	R6049	G-3		
C3014	C-3	C317	F-5	C3517	B-3	C6041	G-3	R1111	I-3	R3042	E-4	R3908	E-2	R6002	H-3	R6050	G-3		
C3015	C-5	C3202	C-3	C3518	B-3	C6042	G-3	R1112	I-3	R305	D-4	R3909	F-3	R6003	H-3	R6051	G-4		
C3016	C-4	C3203	B-2	C3551	A-4	C6043	G-3	R1113	I-3	R306	D-4	R401	E-2	R6004	H-3	R6052	G-2		
C3017	C-4	C3204	B-2	C3552	A-4	C6044	G-3	R1201	J-5	R307	D-4	R402	F-4	R6005	H-3	R6088	F-3		
C3018	C-4	C3205	B-2	C3553	A-3	C703	B-5	R1202	I-5	R308	D-6	R403	F-4	R6006	J-2	R6090	E-5		
C3019	D-4	C3206	B-1	C3554	A-4	C708	C-5	R1203	I-5	R309	D-4	R404	F-4	R6007	H-3	R6091	E-5		
C302	E-5	C3207	B-2	C3555	A-2	D1101	I-4	R1204	J-5	R310	D-5	R405	F-3	R6008	H-3	R6092	F-5		
C3020	D-4	C3208	C-2	C3568	B-3	D1102	I-3	R1205	J-5	R311	D-5	R406	F-3	R6009	H-3	R6093	F-5		
C3021	D-4	C3209	B-2	C408	G-4	D1201	J-5	R1206	I-5	R312	F-5	R407	F-3	R6010	H-3	R6098	G-2		
C3022	D-5	C3210	B-2	C409	H-4	D1202	I-5	R1207	I-5	R314	F-5	R408	E-2	R6011	H-3	R6099	G-2		
C3023	D-4	C3211	B-2	C410	H-5	D6001	G-3	R2017	H-1	R3201	B-2	R409	E-3	R6012	H-3	R6114	F-2		
C3024	D-3	C3213	B-2	C411	H-5	D6002	I-3	R2018	H-1	R3202	B-2	R410	F-3	R6013	H-3	R6117	F-2		
C3025	D-4	C3215	C-2	C5003	E-2	D6007	G-2	R2019	I-1	R3203	B-2	R411	F-3	R6014	J-2	R6141	F-2		
C3026	D-5	C3217	C-2	C5004	E-2	D6010	A-1	R2023	C-3	R3204	B-2	R428	I-4	R6015	I-2	R6144	F-2		
C3027	D-4	C3218	C-2	C5005	E-2	D6014	F-3	R2028	H-2	R3205	B-2	R429	I-4	R6016	I-3	R6145	F-2		
C3028	D-4	C3220	C-2	C5006	E-2	L3002	C-2	R3001	C-4	R3206	C-2	R430	H-4	R6018	J-2	R6148	F-2		
C3029	E-4	C3221	C-2	C5007	D-2	L3003	C-3	R3002	C-3										

MAIN C.B.A. LSEP8085A1 (A) / LSEP8085C1 (B)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN
FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATERNS ARE SINGLE PATTERN FOR EACH
SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

*1,*2 IC6001 REPLACEMENT NOTE:

Three types of IC6001 (M32121FCAWG, M32121MCA100, or M32121MCA101) are used on a running change basis.
When replacing IC6001, as in cases like the following, it is necessary to replace the resistor at the same time.
Otherwise, IC6001 may have a short life.

Be sure to confirm the part numbers of both the original IC6001 and the new one supplied as shown:

Case1: When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA101), be sure to remove resistor
(Ref No. R6027). Then, install it to R6076.

Case2: When replacing IC6001 (M32121MCA100) with IC6001 (M32121FCAWG), be sure to remove resistor
(Ref No. R6076). Then, install it to R6027.

Types of IC6001

	Part number
M32121FCAWG	M32121FCAWG
M32121MCA100	M32121MCA -100WG
M32121MCA101	M32121MCA -101WG

Types of IC401

	Part number
MN1030F01K	MN1030F01K
MN103001GDA	MN103001GDA

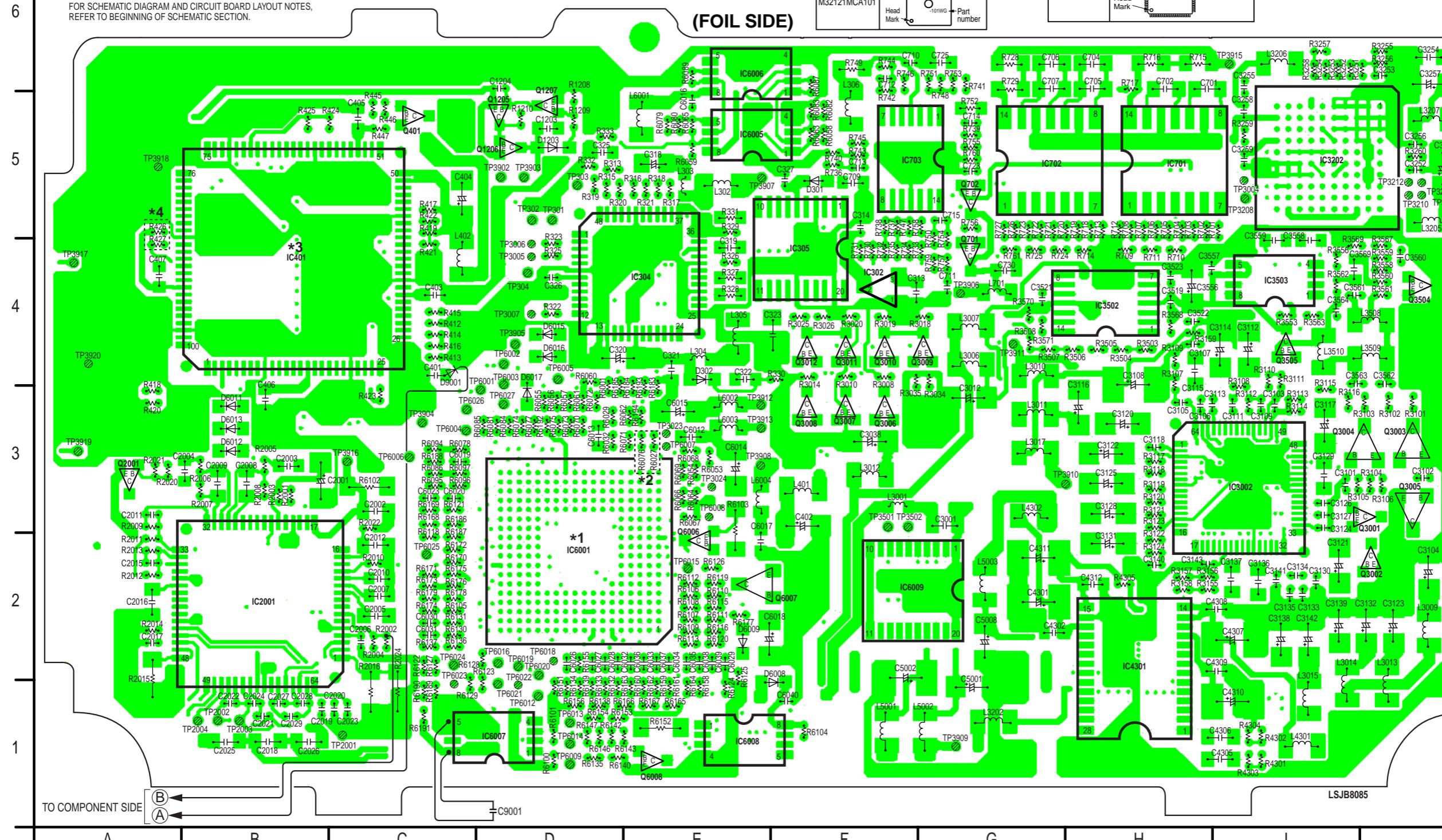
*3,*4 IC401 replacement note:

Two types of IC401 (MN1030F01K, MN103001GDA) are used on a running change basis.
When replacing IC401, the resistor at the same time. Otherwise, IC401 may have a short life.

Be sure to confirm the part numbers of both the original IC401 and the new one supplied as shown:

When replacing IC401 (MN1030F01K) with IC401 (MN103001GDA), be sure to remove resistor (Ref No.R427). Then, install it to R426.

(FOIL SIDE)



COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

NOTE:

FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN	
TRANSISTOR	
Q1205	D-5
Q1206	D-5
Q1207	D-5
Q2001	A-3
Q3001	J-3
Q3002	J-2
Q3003	J-3
Q3004	J-3
Q3005	J-3
Q3006	F-3
Q3007	F-3
Q3008	F-3
Q3009	G-4
Q3010	F-4
Q3011	F-4
Q3012	F-4
Q3504	J-4
Q3505	I-4
Q401	C-5
Q6006	E-2
Q6007	E-2
Q6008	E-1
Q701	G-4
Q702	G-5

MAIN	
IC	
IC2001	B-2
IC3002	I-3
IC302	F-4
IC304	E-4
IC305	F-4
IC3202	I-5
IC3502	H-4
IC3503	I-4
IC401	B-4
IC4301	H-2
IC6001	D-2
IC6005	E-5
IC6006	E-6
IC6007	D-1
IC6008	E-1
IC6009	F-2
IC701	H-5
IC702	G-5
IC703	F-5

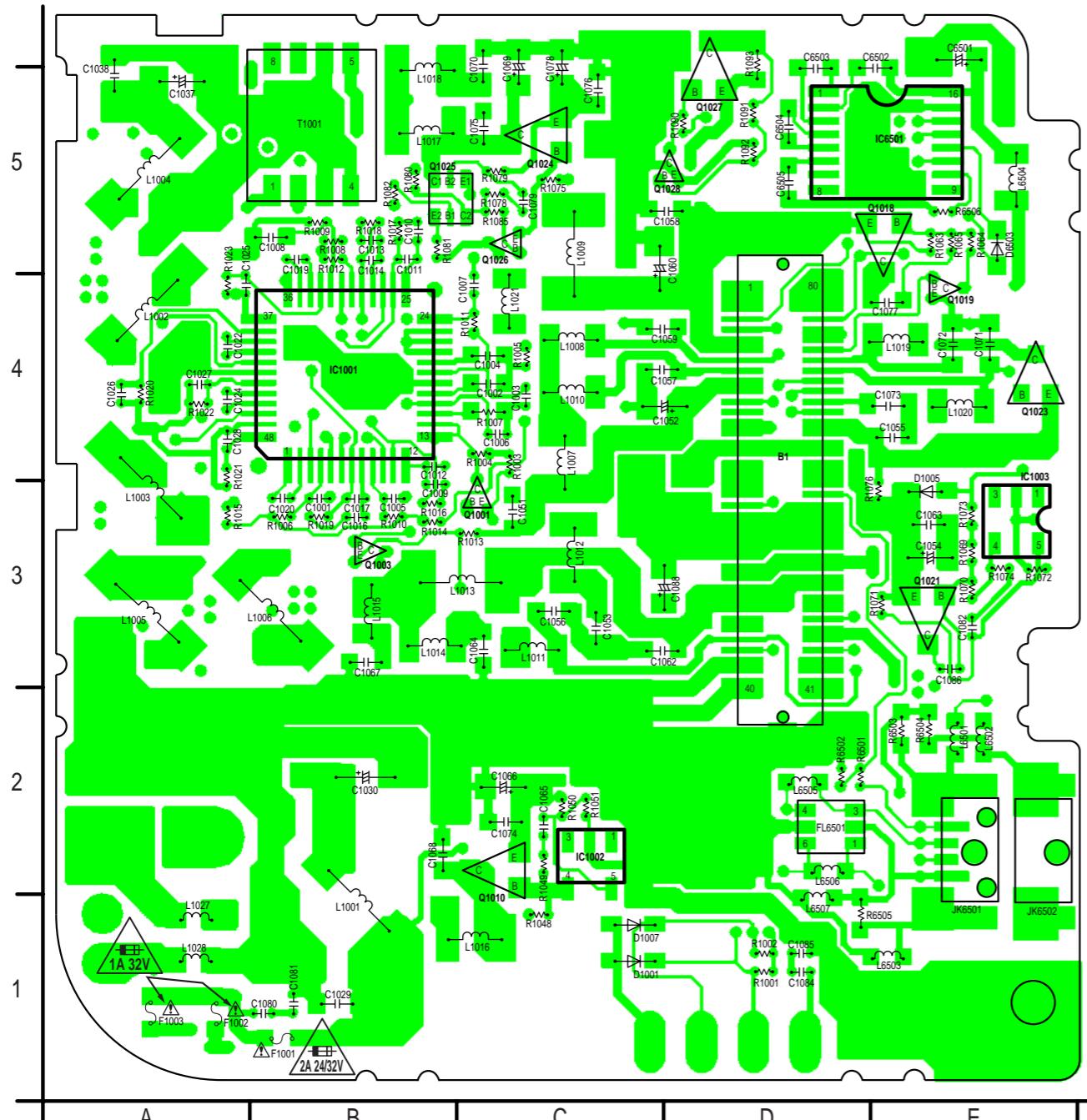
MAIN	
TEST POINT	
TP2001	C-1
TP2002	B-1
TP2003	B-1
TP2004	B-1
TP2005	I-5
TP2006	D-4
TP2007	D-4
TP2008	D-5
TP2009	D-4
TP2010	D-4
TP2011	D-3
TP2012	D-3
TP2013	D-4
TP2014	D-4
TP2015	D-4
TP2016	D-4
TP2017	D-4
TP2018	D-4
TP2019	D-4
TP2020	D-4
TP2021	D-4
TP2022	D-4
TP2023	D-4
TP2024	D-4
TP2025	D-4
TP2026	D-4
TP2027	D-4
TP2028	D-4
TP2029	D-4
TP2030	D-4
TP2031	D-4
TP2032	D-4
TP2033	D-4
TP2034	D-4
TP2035	D-4
TP2036	D-4
TP2037	D-4
TP2038	D-4
TP2039	D-4
TP2040	D-4
TP2041	D-4
TP2042	D-4
TP2043	D-4
TP2044	D-4
TP2045	D-4
TP2046	D-4
TP2047	D-4
TP2048	D-4
TP2049	D-4
TP2050	D-4
TP2051	D-4
TP2052	D-4
TP2053	D-4
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TP2055	D-4
TP2056	D-4
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TP2059	D-4
TP2060	D-4
TP2061	D-4
TP2062	D-4
TP2063	D-4
TP2064	D-4
TP2065	D-4
TP2066	D-4
TP2067	D-4
TP2068	D-4
TP2069	D-4
TP2070	D-4
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TP2072	D-4
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TP2119	D-4
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TP2166	D-4
TP2167	D-4
TP2168	D-4
TP2169	D-4
TP2170	D-4
TP2171	D-4
TP2172	D-4
TP2173	D-4
TP2174	D-4
TP2175	D-4
TP2176	D-4
TP2177	D-4
TP2178	D-4
TP2179	D-4
TP2180	D-4
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TP2182	D-4
TP2183	D-4
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TP2185	D-4
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TP2191	D-4
TP2192	D-4
TP2193	D-4
TP2194	D-4
TP2195	D-4
TP2196	D-4
TP2197	D-4
TP2198	D-4
TP2199	D-4
TP2200	D-4
TP2201	D-4
TP2202	D-4
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TP2204	D-4
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TP2207	D-4
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TP2239	D-4
TP2240	D-4
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TP2245	D-4
TP2246	D-4
TP2247	D-4
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TP2249	D-4
TP2250	D-4
TP2251	D-4
TP2252	D-4
TP2253	D-4
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TP2255	D-4
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TP2300	D-4
TP2301	D-4
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TP2307	D-4
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TP2309	D-4
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TP2329	D-4
TP2330	D-4
TP2331	D-4
TP2332	D-4
TP2333	D-4
TP2334	D-4
TP2335	D-4
TP2336	D-4
TP2337	D-

POWER C.B.A. LSEP8086A1 (A) / LSEP8086B1 (B)

NOTE: MULTILAYER C.B.A.

THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

(COMPONENT SIDE)



NOTE:

FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:

CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

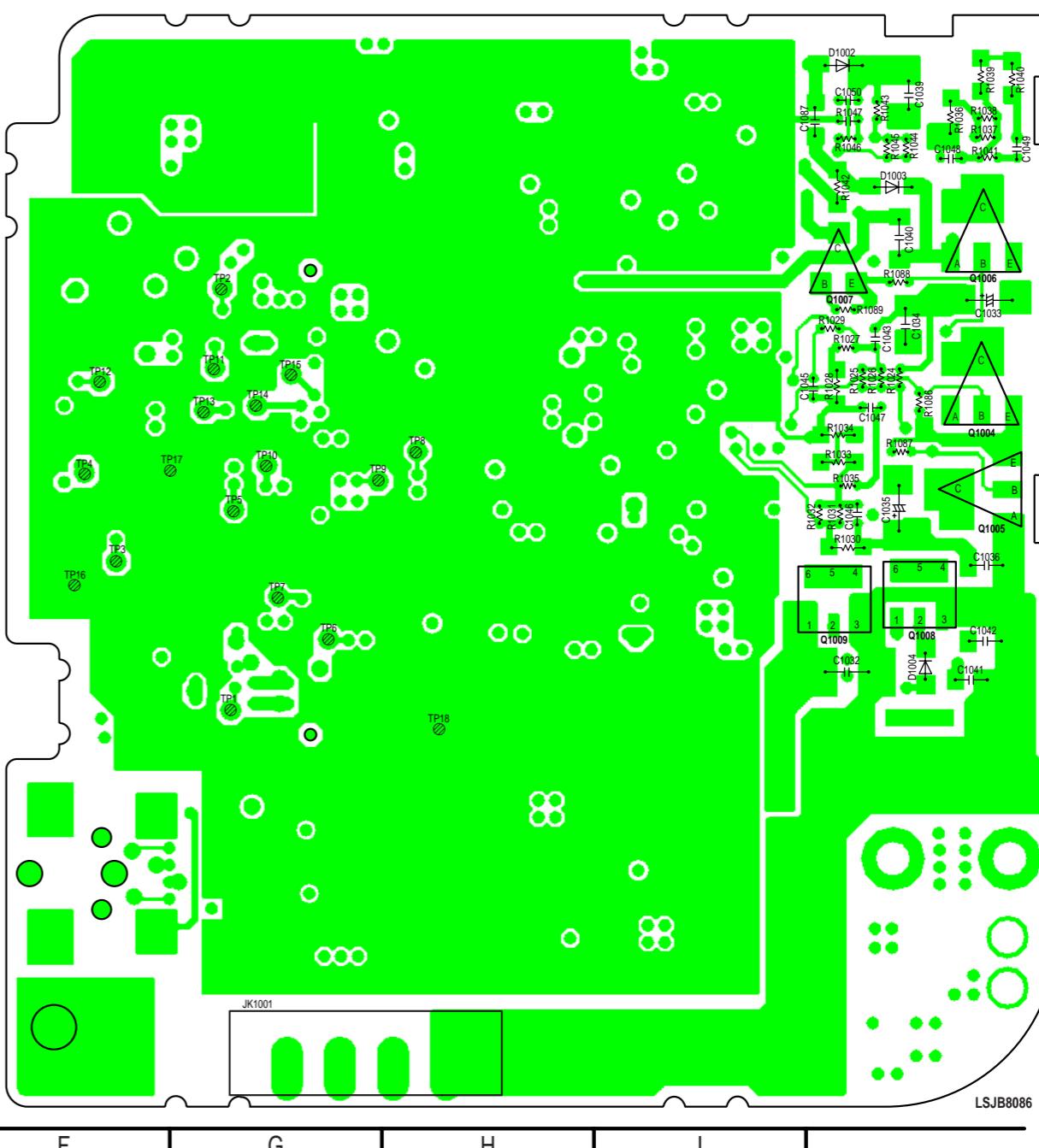
NOTE:

CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

(FOIL SIDE)



CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE **1A 32V** FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N' UTILISER QUE DES FUSIBLE DE MÊME
TYPE **1A 32V**



CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE **2A 32V** FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N' UTILISER QUE DES FUSIBLE DE MÊME
TYPE **2A 32V**



IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

POWER	
IC	
IC1001	B-4
IC1002	C-2
IC1003	E-3
IC6501	E-5
TEST POINT	
TP1	G-2
TP10	G-4
TP11	G-4
TP12	F-4
TP13	G-4
TP14	G-4
TP15	G-4
TP16	F-3
TP17	G-4
TP18	H-2
TP2	G-4
TP3	F-3
TP4	F-4
TP5	G-3
TP6	G-3
TP7	G-3
TP8	H-4
TP9	G-4
TRANSISTOR	
Q1001	C-3
Q1003	B-3
Q1004	J-4
Q1005	J-3
Q1006	J-5
Q1007	J-4
Q1008	J-3
Q1009	J-3
Q1010	C-2
Q1018	E-5
Q1019	E-4
Q1021	E-3
Q1023	E-4
Q1024	C-5
Q1025	B-5
Q1026	C-5
Q1027	D-5
Q1028	D-5
CONNECTOR	
B1	D-4

LEADLESS COMPONENT PARTS LOCATION GUIDE

POWER C.B.A.

C1001	B-3	C1048	J-5	C6503	D-5	L6502	E-2	R1036	J-5	R6501	D-2
C1002	C-4	C1049	J-5	C6504	D-5	L6503	E-1	R1037	J-5	R6502	D-2
C1003	C-4	C1050	J-5	C6505	D-5	L6504	E-5	R1038	J-5	R6503	E-2
C1004	C-4	C1051	C-3	D1001	C-1	L6505	D-2	R1039	J-5	R6504	E-2
C1005	B-3	C1052	C-4	D1002	J-6	L6506	D-2	R1040	J-5	R6505	D-1
C1006	C-4	C1053	C-3	D1003	J-5	L6507	D-1	R1041	J-5	R6506	E-5
C1007	C-4	C1054	E-3	D1004	J-3	R1001	D-1	R1042	J-5	T1001	B-5
C1008	B-5	C1055	E-4	D1005	E-3	R1002	D-1	R1043	J-5		
C1009	B-3	C1056	C-3	D1007	C-1	R1003	C-4	R1044	J-5		
C1010	B-5	C1057	C-4	D6503	E-5	R1004	C-4	R1045	J-5		
C1011	B-5	C1058	C-5	F1001	B-1	R1005	C-4	R1046	J-5		
C1012	B-4	C1059	C-4	F1002	A-1	R1006	B-3	R1047	J-5		
C1013	B-5	C1060	C-5	F1003	A-1	R1007	C-4	R1048	C-1		
C1014	B-5	C1062	C-3	FL6501	D-2	R1008	B-5	R1049	C-2		
C1016	B-3	C1063	E-3	JK1001	G-1	R1009	B-5	R1050	C-2		
C1017	B-3	C1064	C-3	JK6501	E-2	R1010	B-3	R1051	C-2		
C1019	B-5	C1065	C-2	JK6502	E-2	R1011	C-4	R1063	E-5		
C1020	B-3	C1066	C-2	L1001	B-1	R1012	B-5	R1064	E-5		
C1022	A-4	C1067	B-3	L1002	A-4	R1013	C-3	R1065	E-5		
C1024	A-4	C1068	B-2	L1003	A-3	R1014	B-3	R1069	E-3		
C1025	A-4	C1069	C-5	L1004	A-5	R1015	A-3	R1070	E-3		
C1026	A-4	C1070	C-5	L1005	A-3	R1016	B-3	R1071	E-3		
C1027	A-4	C1071	E-4	L1006	B-3	R1017	B-5	R1072	E-3		
C1028	A-4	C1072	E-4	L1007	C-4	R1018	B-5	R1073	E-3		
C1029	B-1	C1073	E-4	L1008	C-4	R1019	B-3	R1074	E-3		
C1030	B-2	C1074	C-2	L1009	C-5	R1020	A-4	R1075	C-5		
C1032	J-3	C1075	C-5	L1010	C-4	R1021	A-4	R1076	E-3		
C1033	J-4	C1076	C-5	L1011	C-3	R1022	A-4	R1078	C-5		
C1034	J-4	C1077	E-4	L1012	C-3	R1023	A-4	R1079	C-5		
C1035	J-3	C1078	C-5	L1013	C-3	R1024	J-4	R1080	B-5		
C1036	J-3	C1079	C-5	L1014	B-3	R1025	J-4	R1081	B-5		
C1037	A-5	C1080	B-1	L1015	B-3	R1026	J-4	R1082	B-5		
C1038	A-5	C1081	B-1	L1016	C-1	R1027	J-4	R1085	C-5		
C1039	J-5	C1082	E-3	L1017	B-5	R1028	J-4	R1086	J-4		
C1040	J-5	C1084	D-1	L1018	B-5	R1029	J-4	R1087	J-4		
C1041	J-3	C1085	D-1	L1019	E-4	R1030	J-3	R1088	J-4		
C1042	J-3	C1086	E-3	L1020	E-4	R1031	J-3	R1089	J-4		
C1043	J-4	C1087	J-5	L1021	C-4	R1032	J-3	R1090	D-5		
C1045	J-4	C1088	D-3	L1027	A-1	R1033	J-4	R1091	D-5		
C1046	J-3	C6501	E-6	L1028	A-1	R1034	J-4	R1092	D-5		
C1047	J-4	C6502	E-5	L6501	E-2	R1035	J-4	R1093	D-5		

MICROPHONE UNIT/FRONT C.B.A. LSXM0013 (A) / LSXM0014 (B)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

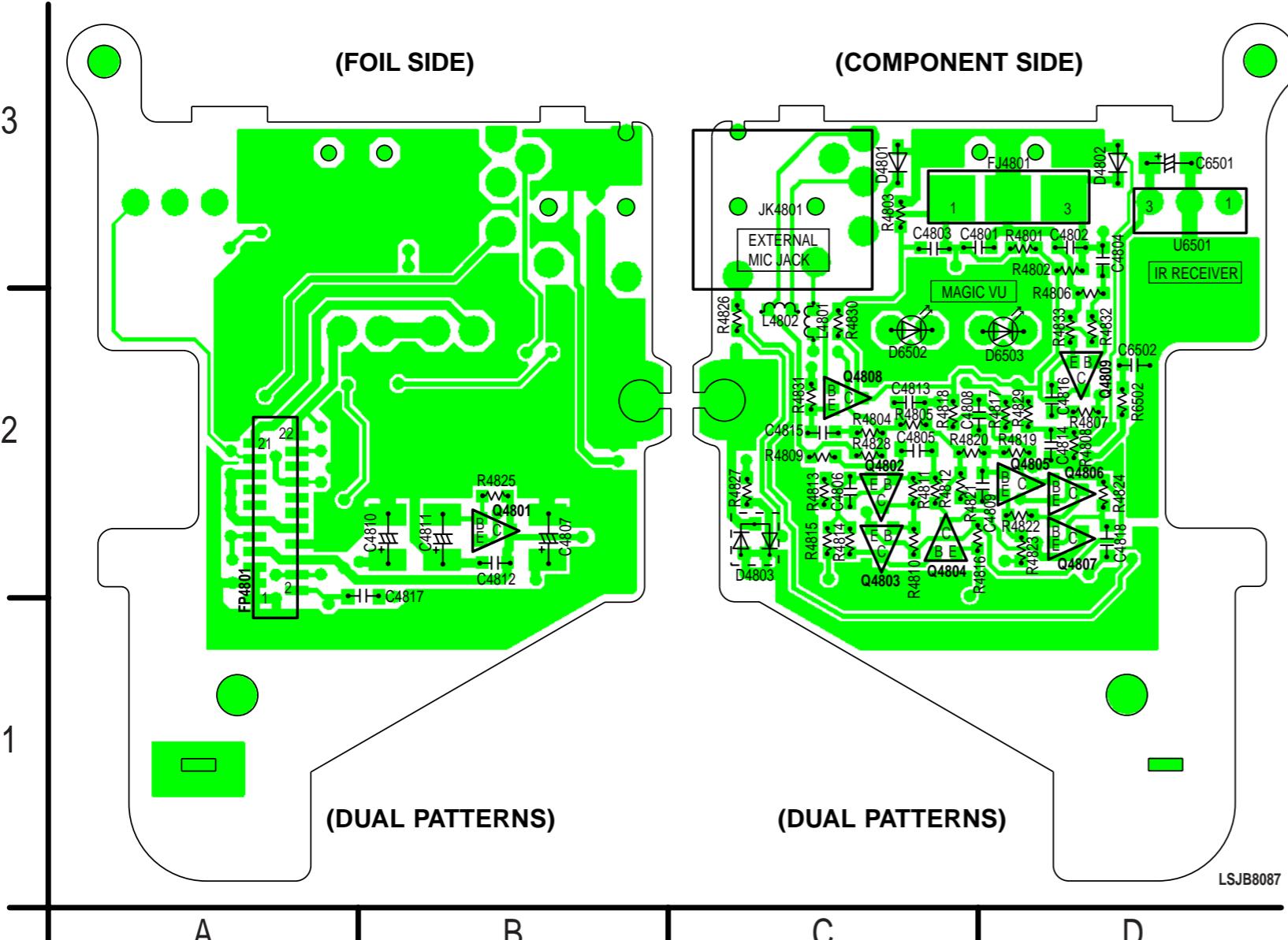
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

MICROPHONE / FRONT	
TRANSISTOR	
Q4801	B-2
Q4802	C-2
Q4803	C-2
Q4804	C-2
Q4805	D-2
Q4806	D-2
Q4807	D-2
Q4808	C-2
Q4809	D-2
CONNECTOR	
FJ4801	D-3
FP4801	A-2

LEADLESS COMPONENT PARTS LOCATION GUIDE MICROPHONE / FRONT C.B.A.	
C4801	C-3
C4802	D-3
C4803	C-3
C4804	D-3
C4805	C-2
C4806	C-2
C4807	B-2
C4808	C-2
C4809	D-2
C4810	B-2
C4811	C-2
C4812	B-2
C4813	C-2
C4814	D-2
C4815	C-2
C4816	D-2
C4817	B-2
C4818	D-2
C6501	D-3
C6502	D-2
D4801	C-3
D4802	D-3
D4803	C-2
D6502	C-2
R4801	C-2
R4802	C-2
R4803	D-3
R4804	C-2
R4805	D-2
R4806	D-2
R4807	D-2
R4808	C-2
R4809	D-2
R4810	C-2
R4811	C-2
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R4813	C-2
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R4815	C-2
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R4998	C-2
R4999	C-2
R5000	C-2



LSJB8087

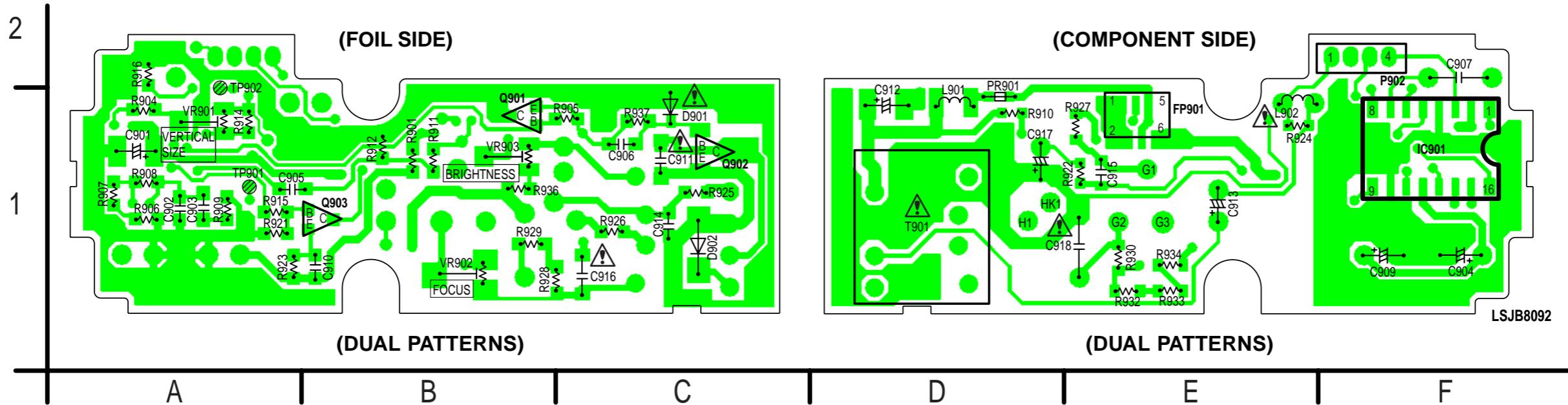
MODEL	MARK
PV-DV101	A
PV-DV401	B

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.



EVF	
IC	
IC901	F-1
CONNECTOR	
FP901	E-1
P902	F-2
TEST POINT	
TP901	A-1
TP902	A-1
ADJUSTMENT	
VR901	A-1
VR902	B-1
VR903	B-1
TRANSISTOR	
Q901	B-1
Q902	C-1
Q903	B-1

LEADLESS COMPONENT PARTS LOCATION GUIDE

EVF C.B.A.

C901	A-1	C913	E-1	R901	D-1	R915	A-1	R930	E-1
C902	A-1	C914	C-1	R904	A-1	R916	A-2	R932	E-1
C903	A-1	C915	E-1	R905	C-1	R921	A-1	R933	E-1
C904	F-1	C916	C-1	R906	A-1	R922	E-1	R934	E-1
C905	A-1	C917	D-1	R907	A-1	R923	A-1	R936	B-1
C906	C-1	C918	E-1	R908	A-1	R924	E-1	R937	C-1
C907	F-2	D901	C-1	R909	A-1	R925	C-1	T901	D-1
C909	F-1	D902	C-1	R910	D-1	R926	C-1		
C910	B-1	L901	D-1	R911	B-1	R927	E-1		
C911	C-1	L902	E-1	R912	B-1	R928	B-1		
C912	D-1	PR901	D-1	R914	A-1	R929	B-1		

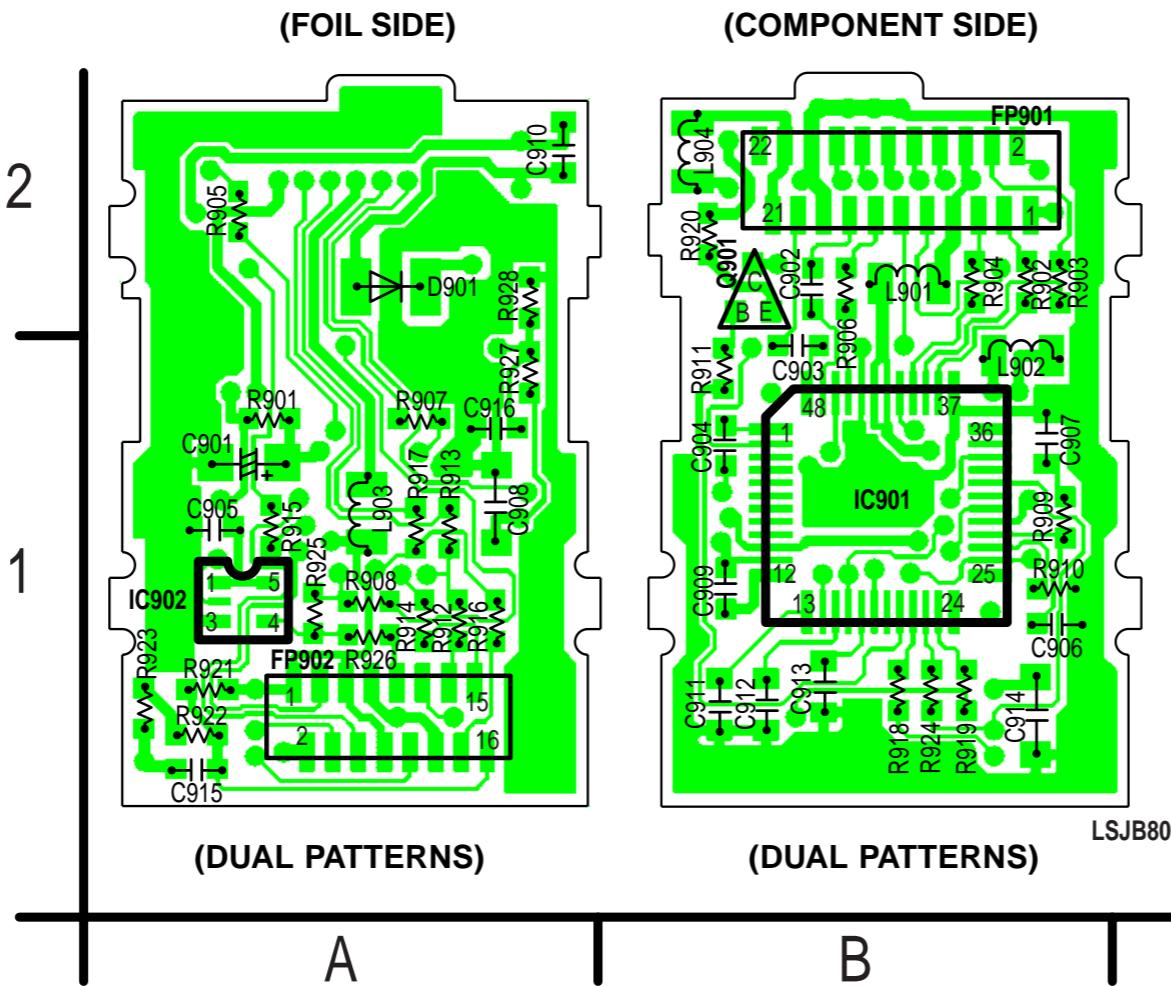
COLOR EVF C.B.A. LSEP8093A1 (B)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
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PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.



COLOR EVF	
IC	
IC901	B-1
IC902	A-1
CONNECTOR	
FP901	B-2
FP902	A-1
TRANSISTOR	
Q901	B-2

LEADLESS COMPONENT PARTS LOCATION GUIDE COLOR EVF C.B.A.

C901	A-1	C909	B-1	L901	B-2	R906	B-1	R915	A-1	R924	B-1
C902	B-2	C910	A-2	L902	B-1	R907	A-1	R916	A-1	R925	A-1
C903	B-1	C911	B-1	L903	A-1	R908	A-1	R917	A-1	R926	A-1
C903	B-1	C912	B-1	L904	B-2	R909	B-1	R918	B-1	R927	A-1
C904	B-1	C913	B-1	R901	A-1	R910	B-1	R919	B-1	R928	A-2
C905	A-1	C914	B-1	R902	B-2	R911	B-1	R920	B-2		
C906	B-1	C915	A-1	R903	B-2	R912	A-1	R921	A-1		
C907	B-1	C916	A-1	R904	B-2	R913	A-1	R922	A-1		
C908	A-1	D901	A-2	R905	A-2	R914	A-1	R923	A-1		

LCD C.B.A. LSEP8090A1 (A) / LSEP8090B1 (B)

COMPARISON CHART
OF MODELS & MARKS

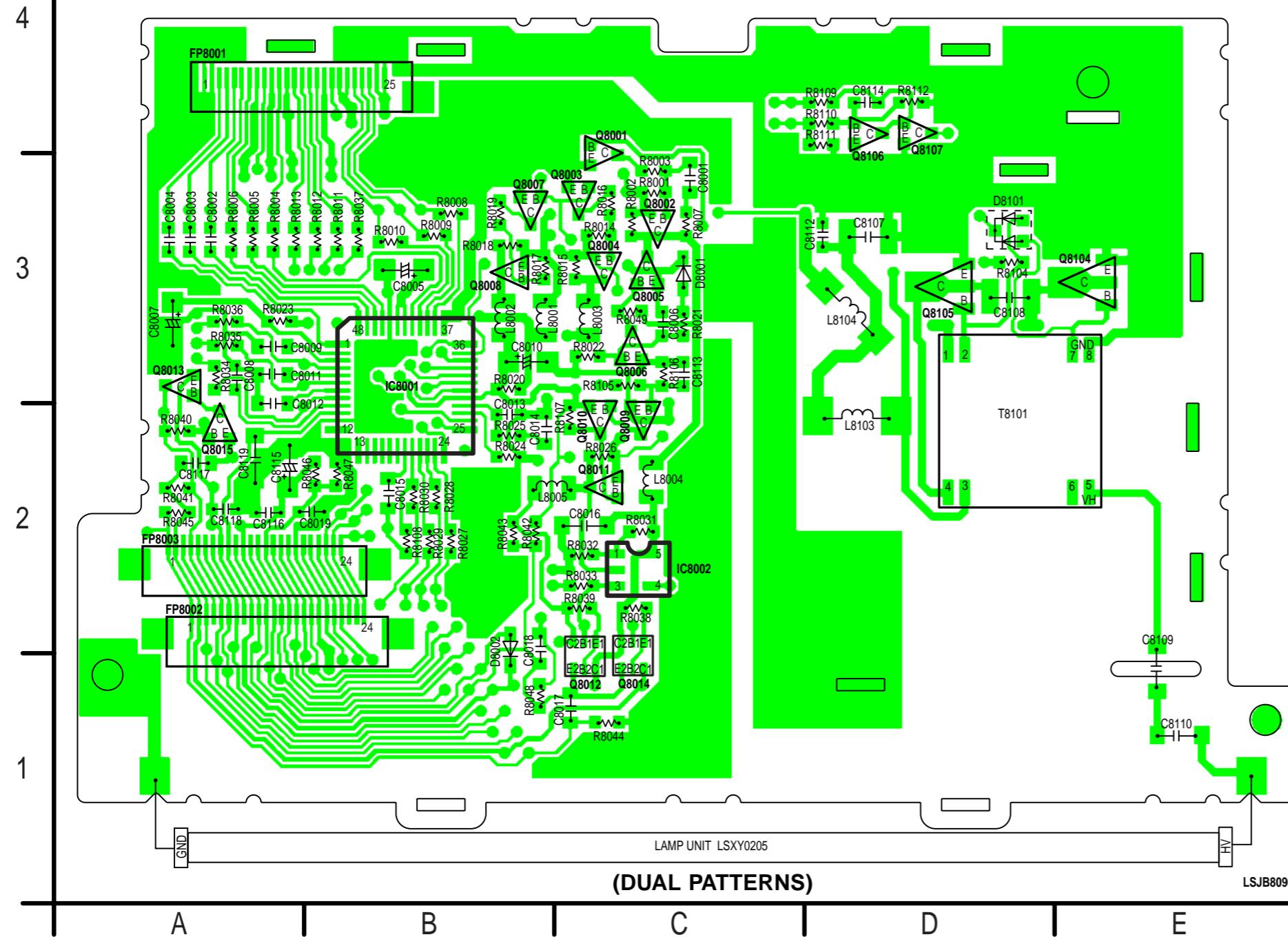
MODEL	MARK
PV-DV101	A
PV-DV401	B

NOTE:
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NOTE:
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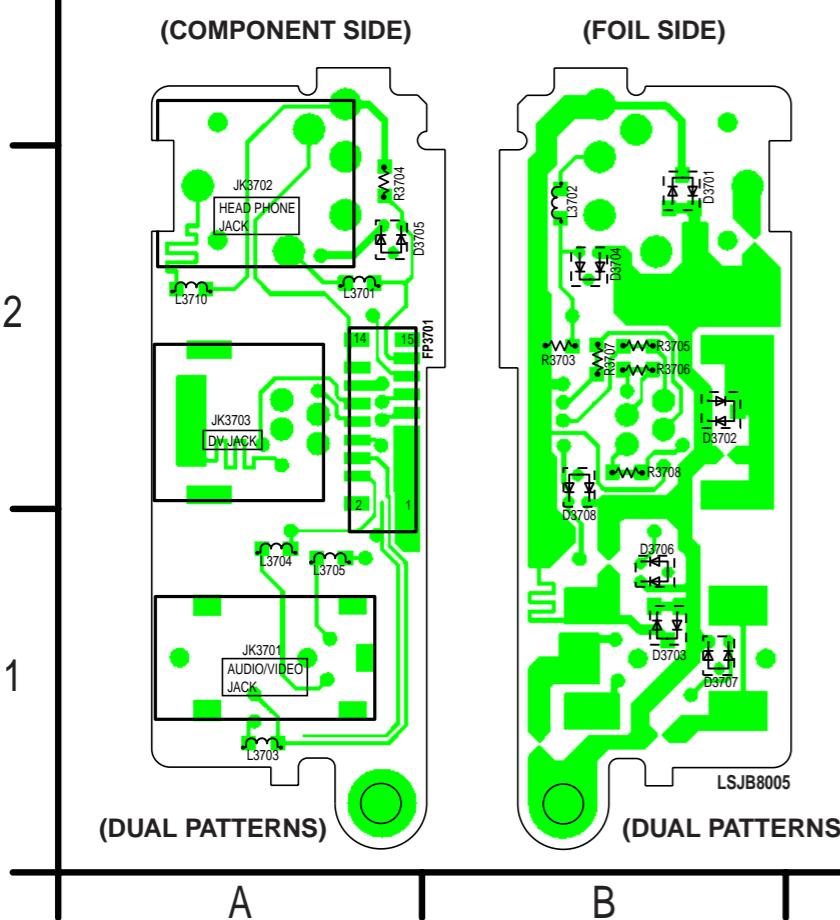
NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

(FOIL SIDE)



LCD	
IC	
IC8001	B-3
IC8002	C-2
CONNECTOR	
FP8001	A-4
FP8002	A-2
FP8003	A-2
TRANSISTOR	
Q8001	C-4
Q8002	C-3
Q8003	C-3
Q8004	C-3
Q8005	C-3
Q8006	C-3
Q8007	B-3
Q8008	B-3
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Q8293	C-3
Q8294	C-3
Q8295	C-3
Q8296	C-3
Q8297	C-3
Q8298	C-3
Q8299	C-3
Q8300	C-3
Q8301	C-3
Q8302	C-3
Q8303	C-3
Q8304	C-3
Q8305	C-3
Q8306	C-3
Q8307	C-3
Q8308	C-3
Q8309	C-3
Q8310	C-3
Q8311	C-3
Q8312	C-3
Q8313	C-3
Q8314	C-3
Q8315	C-3
Q8316	C-3
Q8317	C-3
Q8318	C-3
Q8319	C-3
Q8320	C-3
Q8321	C-3
Q8322	C-3
Q8323	C-3
Q8324	C-3
Q8325	C-3
Q8326	C-3
Q8327	C-3
Q8328	C-3
Q8329	C-3
Q8330	C-3
Q8331	C-3
Q8332	C-3
Q8333	C-3
Q8334	C-3
Q8335	C-3
Q8336	C-3
Q8337	C-3
Q8338	C-3
Q8339	C-3
Q8340	C-3
Q8341	C-3
Q8342	C-3
Q8343	C-3
Q8344	C-3
Q8345	C-3
Q8346	C-3
Q8347	C-3
Q8348	C-3
Q8349	C-3
Q8350	C-3
Q8351	C-3
Q8352	C-3
Q8353	C-3
Q8354	C-3
Q8355	C-3
Q8356	C-3
Q8357	C-3
Q8358	C-3
Q8359	C-3
Q8360	C-3
Q8361	C-3
Q8362	C-3
Q8363	C-3
Q8364	C-3
Q8365	

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.

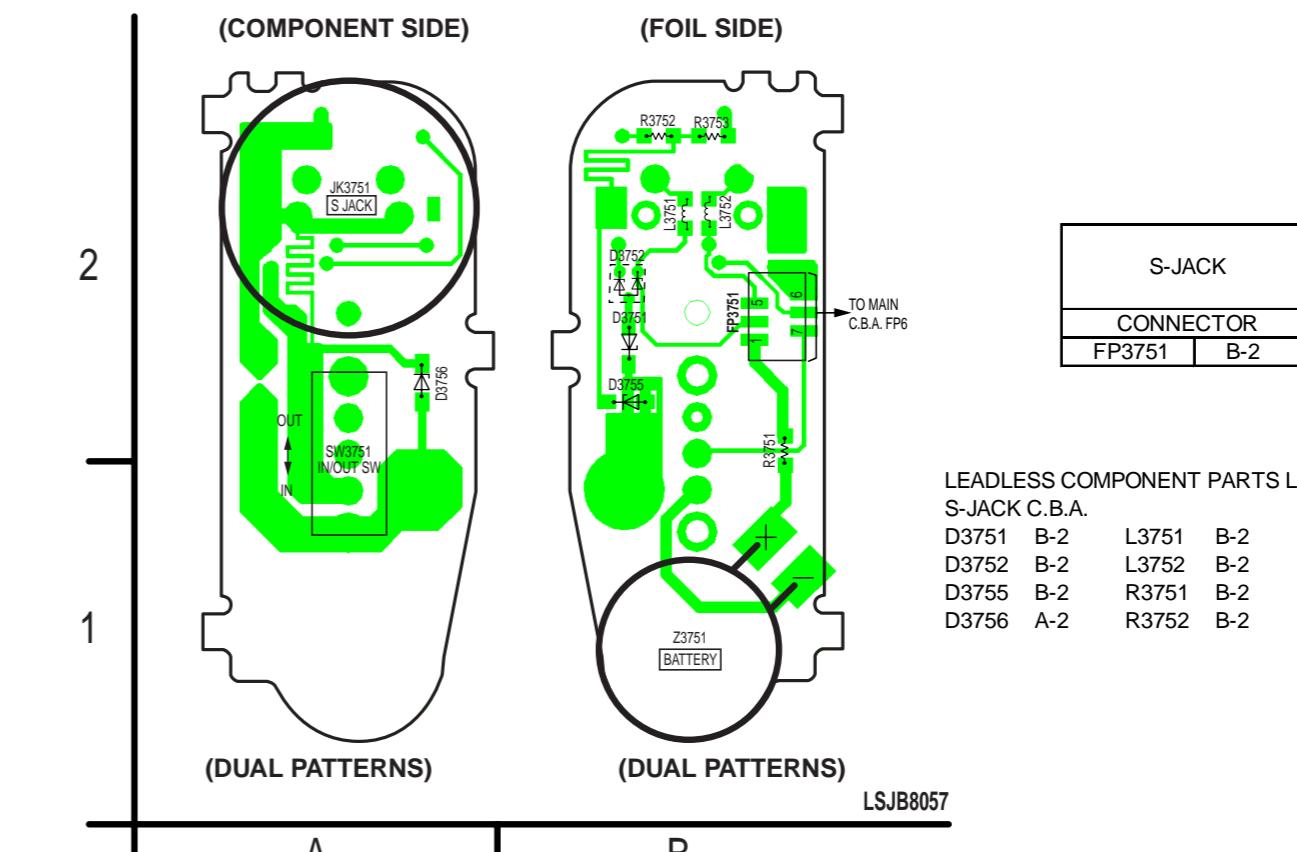


JACK	
CONNECTOR	
FP3701	A-2

LEADLESS COMPONENT PARTS LOCATION GUIDE
JACK C.B.A.

D3701	B-2	L3701	A-2	R3703	B-2
D3702	B-2	L3702	B-2	R3704	A-2
D3703	B-1	L3703	A-1	R3705	B-2
D3704	B-2	L3704	A-1	R3706	B-2
D3705	A-2	L3705	A-1	R3707	B-2
D3706	B-1	L3710	A-2	R3708	B-2
D3707	B-1				
D3708	B-2				

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST FOR PROPER PARTS CONTENT.



S-JACK
CONNECTOR
FP3751 B-2

LEADLESS COMPONENT PARTS LOCATION GUIDE
S-JACK C.B.A.

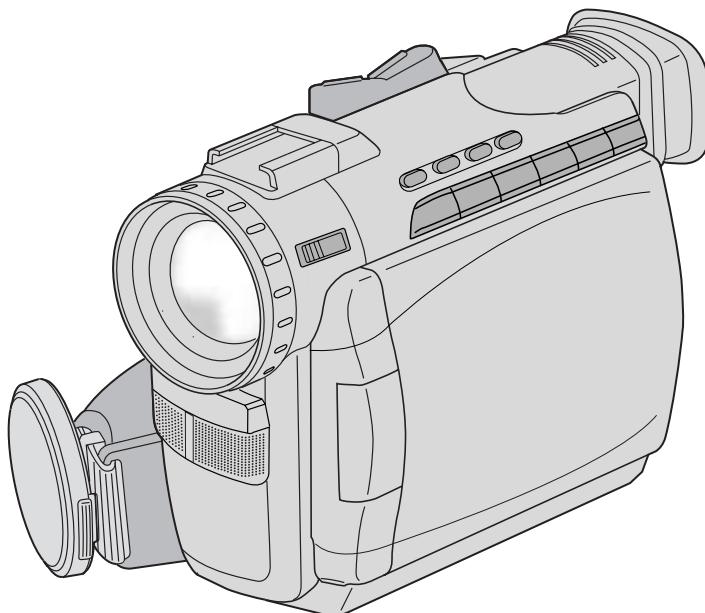
D3751	B-2	L3751	B-2	R3753	B-2
D3752	B-2	L3752	B-2	D3751	B-2
D3755	B-2	R3751	B-2	SW3751	A-2
D3756	A-2	R3752	B-2		

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

Digital Palmcorder®

Panasonic®

Digital Video Camcorder
Operating Instructions
Model No. **PV-DV401**



MultiMediaCard™



Mini **DV**

Before attempting to connect, operate or adjust this product, please read these instructions thoroughly.



LSQT0451A

Things You Should Know

**Thank you for choosing
Panasonic!**

You have purchased one of the most sophisticated and reliable products on the market today. Used properly, we're sure it will bring you and your family years of enjoyment. Please take time to fill in the information below. The serial number is on the tag located on the underside of your Palmcorder. Be sure to **retain this manual** as your convenient Palmcorder information source.

Date of Purchase _____

Dealer Purchased From _____

Dealer Address _____

Dealer Phone No. _____

Model No. _____

Serial No. _____

Safety Precautions

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

Your Mini DV Palmcorder is designed to record and play back in Standard Play (SP) mode and Long (LP) mode.

It is recommended that only cassette tapes that have been tested and inspected for use in VCR machines with the Mini DV mark be used.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

The above markings are located on the appliance bottom cover.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when operated in a residential environment.

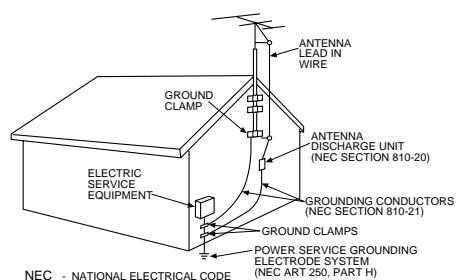
If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver.

If necessary, consult the dealer or an experienced radio/TV technician for help. You may find the booklet, 'Something About Interference' available from FCC local regional offices helpful.

FCC Warning: To assure continued FCC compliance, use only the provided shielded interface cable when connecting digital video camera to computer in accordance with instruction herein. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate.

Important Safeguards

1. Read Instructions — All the safety and operating instructions should be read before the unit is operated.
2. Retain Instructions — The safety and operating instructions should be retained for future reference.
3. Heed Warnings — All warnings on the unit and in the operating instructions should be adhered to.
4. Follow Instructions — All operating and maintenance instructions should be followed.
5. Cleaning — Unplug this video unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for cleaning.
6. Attachments — Do not use attachments not recommended by the video product manufacturer as they may be hazardous.
7. Water and Moisture — Do not use this video unit near water — for example near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
8. Accessories — Do not place this video unit on an unstable cart, stand, tripod, bracket, or table. The video unit may fall, causing serious injury to a child or adult, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video unit. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
9. Ventilation — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video unit and to protect it from overheating. These openings must not be blocked or covered. Never place the video unit on a bed, sofa, rug, or other similar surface, or near or over a radiator or heat register. This video unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. Power Sources — This video unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video units intended to be operated from battery power, or other sources, refer to the operating instructions.
11. Grounding or Polarization — This video unit may be equipped with either a polarized 2-wire AC (Alternating Current) line plug (a plug having one blade wider than the other) or 3-wire grounding type plug, a plug having a third (grounding) pin. The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. The 3-wire grounding type plug will fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
12. Power-Cord Protection — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords of plugs, convenience receptacles, and the point where they exit from the unit.
13. Outdoor Antenna Grounding — If an outside antenna or cable system is connected to the video unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Part 1 of the Canadian Electrical Code, in USA Section 810 of the National Electrical Code, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
14. Lightning — For added protection of this video unit receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video unit due to lightning and power-line surges.



14. Lightning — For added protection of this video unit receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video unit due to lightning and power-line surges.

Important Safeguards

15. Power Lines — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
16. Overloading — Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
17. Objects and Liquids — Never push objects of any kind into this video unit through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind onto the video unit.
18. Servicing — Do not attempt to service this video unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. Damage Requiring Service — Unplug this video unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
- b. If any liquid has been spilled into, or objects have fallen onto, the video unit.
- c. If the video unit has been exposed to rain or water.
- d. If the video unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video unit to its normal operation.
- e. If the video unit has been dropped or the cabinet has been damaged.
- f. When the video unit exhibits a distinct change in performance — this indicates a need for service.
20. Replacement Parts — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
21. Safety Check — Upon completion of any service or repairs to this video unit, ask the service technician to perform safety checks to determine that the video unit is in safe operating order.

Precautions

USE & LOCATION

- **TO AVOID SHOCK HAZARD ...** Your Palmcorder and power supply should not be exposed to rain or moisture. Do not connect the power supply or operate your Palmcorder if it gets wet. Your Palmcorder has been designed for outdoor use, however it is not designed to sustain direct exposure to water, rain, sleet, snow, sand, dust, or a direct splashing from a pool or even a cup of coffee. This action could permanently damage the internal parts of your Palmcorder. Do not attempt to disassemble this unit. There are no user serviceable parts inside. Unplug your Palmcorder from the power supply before cleaning.

- **DO NOT AIM YOUR PALMCORDER AT THE SUN OR OTHER BRIGHT OBJECTS**
- **DO NOT LEAVE THE PALMCORDER WITH THE EVF AIMED DIRECTLY AT THE SUN AS THIS MAY CAUSE DAMAGE TO THE INTERNAL PARTS OF THE EVF**
- **DO NOT EXPOSE YOUR PALMCORDER TO EXTENDED HIGH TEMPERATURE ...** Such as, in direct sunlight, inside a closed car, next to a heater, etc... This action could permanently damage the internal parts of your Palmcorder.

- **AVOID SUDDEN CHANGES IN TEMPERATURE ...** If the unit is suddenly moved from a cold place to a warm place, moisture may form on the tape and inside the unit.

- **DO NOT LEAVE YOUR PALMCORDER OR THE POWER SUPPLY TURNED ON WHEN NOT IN USE.**
- **STORAGE OF YOUR PALMCORDER ...** Store and handle your Palmcorder in a manner that will not subject it to unnecessary movement (avoid shaking and striking). Your Palmcorder contains a sensitive pick-up device which could be damaged by improper handling or storage.

CARE

- **TO CLEAN YOUR PALMCORDER ...** Do not use strong or abrasive detergents when cleaning your Palmcorder body.
- **TO PROTECT THE LENS ...** Do not touch the surface of the lens with your hand. Use a commercial Palmcorder lens solution and lens paper when cleaning the lens. Improper cleaning can scratch the lens coating.
- **TO PROTECT THE FINISH OF YOUR PALMCORDER ...** Before handling your Palmcorder, make sure your hands and face are free from any chemical products, such as suntan lotion, as it may damage the finish.

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Getting Started

Before Using

Unpack your Palmcorder

1 pc. AC Adaptor
(PV-DAC11) with AC Cable
and DC Cable



1 pc. Battery Pack
(PV-DBP8A)



1 pc. 8 MB
MultiMediaCard
(LSFT0198A)



1 pc. A/V Cable
(LSJA0280)



1 pc. Lens Cap
(LSYF0478)



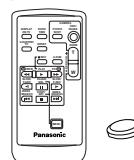
1 pc. USB
Cable
(LSJA0354)



1 pc. Shoulder
Strap (LSFC0013)



1 pc. IR Remote Control (LSSQ0294)
with Battery (CR2025)



1 pc. CD-ROM of Driver Software for
Windows 98/Me / Palmcorder USB Device
Driver for Windows 98/Me/ CARD LINK (for
USB) for Windows 98/Me / PHOTOVU
LINK/Movie Messenger for Windows 98/
Me/ ArcSoft Software for Windows 98/Me
(LSFT0247)



Microsoft® and Windows® are registered
trademarks of Microsoft in the United
States and other countries.

Intel® Pentium® is a registered trademark.
iLINK and i are trademarks.

PHOTOVU LINK/Movie Messenger is a
registered trademark.

IBM is a registered trademark of IBM
Company.

MultiMediaCard is a registered trademark.
SD is a trademark.

Record Speed/Playback Time

Use only those tapes having the **Mini DV**
logo indicating the 6.35 mm digital
standard.

Cassette type	Record Speed/ Playback time	
	SP	LP
AY-DVM30EA	30 minutes	45 minutes
AY-DVM60EA	60 minutes	90 minutes
AY-DVM80EA	80 minutes	120 minutes

Erase Protection

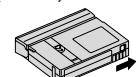
Cassettes have a sliding record tab to
ensure recordings are not accidentally
erased.

1 To prevent accidental erasure:
Slide the tab to the left (open).

record tab

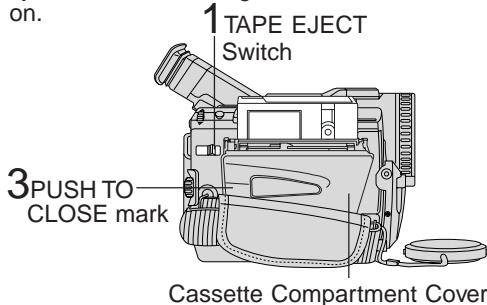


2 To record again:
Slide the tab to the right (close).



Cassette Insertion/Removal

- If the Palmcorder is connected to a power source, the cassette can be inserted and ejected without turning the Palmcorder on.



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)

1 Slide **TAPE EJECT** to open the Cassette Compartment Cover.

2 Insert a **cassette** record tab up, window side facing out.

3 Press **PUSH TO CLOSE** mark to close the Cassette Compartment Cover.

To remove the cassette...

Slide **TAPE EJECT** to open the Cassette Compartment Cover and pull the cassette tape straight out.

Hint to locate recording position when inserting cassette

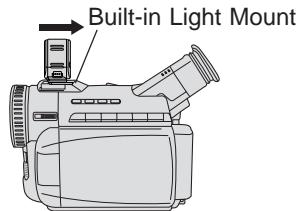
- When you insert a partially recorded cassette, use the Edit Search Function (see page 24) to visually confirm the point at which you want to start a new recording. Especially advisable when you want to add a recording to a tape that is already full.

Note

- If hand strap is tight it may prevent Cassette Compartment Cover from fully opening for tape insertion or ejection. Loosen hand strap if necessary.
- When inserting the cassette, make sure it faces in the right direction and then push in completely.

Using the Light (Optional)

To brighten the natural colors in a scene.



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set **POWER** to **CAMERA** or **M-CARD**.

1 Slide Light into the Built-in Light Mount.

Be sure it locks into place.

2 Press **LIGHT** to turn ON or OFF.



LIGHT RELEASE Button

Note

- Using the light will reduce battery operating time.
- Be sure to provide adequate ventilation if using Light in a hot environment for an extended period.
- Be sure **LIGHT** is set to **OFF** when not in use.
- Do not attempt to lift or carry the Palmcorder by holding the Enhancement Light.
- If light bulb needs to be replaced, take Light to your nearest authorized servicerenter.

To remove the Light:

Press **LIGHT RELEASE** and slide the Light out of the mount.

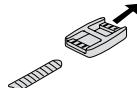
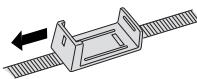
Caution

This light becomes hot during operation. Make sure nothing covers the Light during operation.

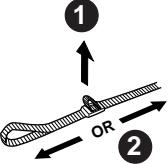
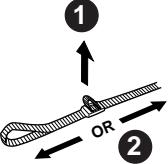
Before Using

Attaching the Shoulder Strap

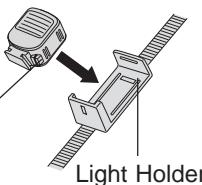
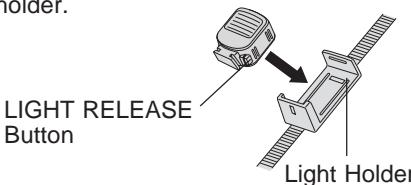
- 1** Undo the two strap ends from their buckles.

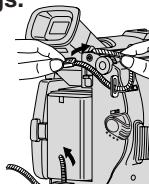
- 2** Remove the buckle from one end of the strap.

- 3** Thread the strap (with no buckle) through the Light Holder so that it faces outward. Then, reinsert the buckle.


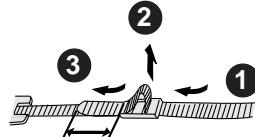
Adjust the Length

- 1** Loosen the strap from the Buckle and create a loop.

- 2** Pull the strap firmly through the Buckle to shorten or lengthen the strap.


Attach the Light (Optional)

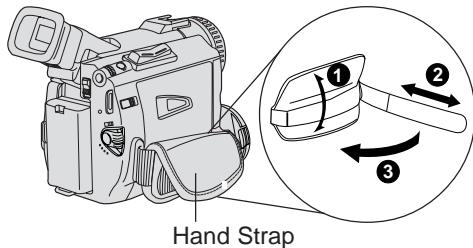
- 1** Insert the Light into the Light Holder for Storage.

- 2** To remove the Light, press LIGHT RELEASE and slide Light out of the holder.


- 4** Thread the strap ends through the Strap Attachment Rings.


- 5** Reinsert the strap ends through their buckles.
 - Make sure the straps are not twisted.


Hand Strap

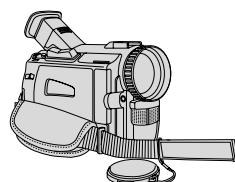
Adjust the length of the Hand Strap to the size of your hand as illustrated.



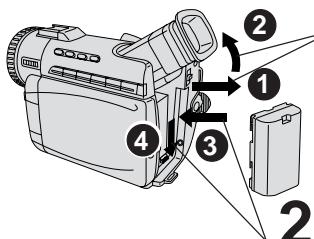
Lens Cap

Attaching the Lens Cap Cord to the Hand Strap

Remove the Hand Strap from the front clasp and thread the Strap through the loop in the Lens Cap Cord. Reattach the Hand Strap.



Insert the Battery Pack

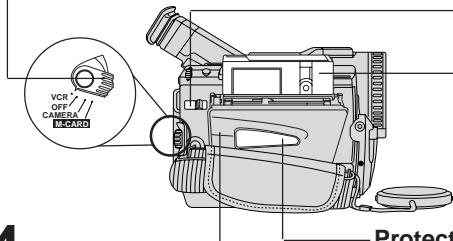


Before you begin

- Charge the Battery. (See page 11.)

Insert Cassette

- 1** Set POWER Switch to VCR or CAMERA.



- 2** Slide TAPE EJECT Switch to open the Cassette Compartment Cover.

- 3** Insert a cassette record tab up, window side facing out.
• Make sure the record tab is closed. (See page 6.)

- 4** Press PUSH TO CLOSE mark to close the Cassette Compartment Cover.

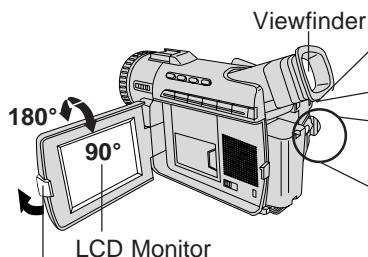
Protection Film

Note

- Remove the Protection Film before use.

Camera Recording

When the LCD monitor is fully open, the Viewfinder automatically turns OFF.



- 3** Press LCD-OPEN Button to unlock the LCD monitor. Swing it fully open and adjust the angle.

- 2** Adjust the Vision Adjustment Control to your eyesight.

- 1** Set POWER Switch to CAMERA.

- 4** Press REC/PAUSE Button to start recording.
Press REC/PAUSE Button again to pause recording.

Quick Guide

Insert Memory Card*

Before you begin

- Charge the Battery. (See page 11.)

*Memory Card: MultiMediaCard or SD Memory Card (See page 64.)

• Be sure to insert the Memory Card before using the Card PhotoShot. (See page 32.)

Below is a list of memory cards which can be used in this Palmcorder.

Memory Card	Capacity
MultiMediaCard (LSFT0198A) (supplied)	8 MB
MultiMediaCard (SanDisk brand)	8 MB, 16 MB
SD Memory Card (optional) (See page 64.)	16 MB, 32 MB, 64 MB

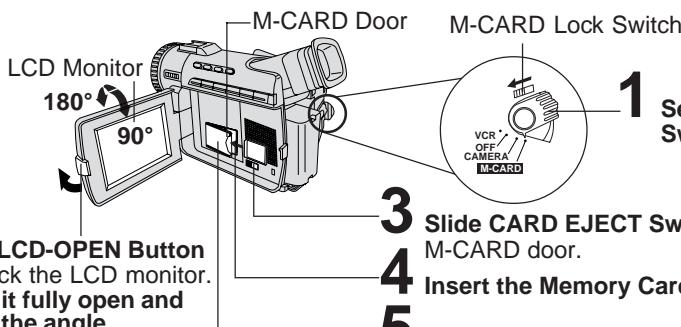
SD Memory Card write protection switch



A write protection switch is located on the SD Memory Card. Sliding the switch to the "LOCK" position prevents writing on or formatting the card.

← Write protection switch

- 2** Press LCD-OPEN Button to unlock the LCD monitor. Swing it fully open and adjust the angle.



To Watch Playback in the LCD (Liquid Crystal Display)

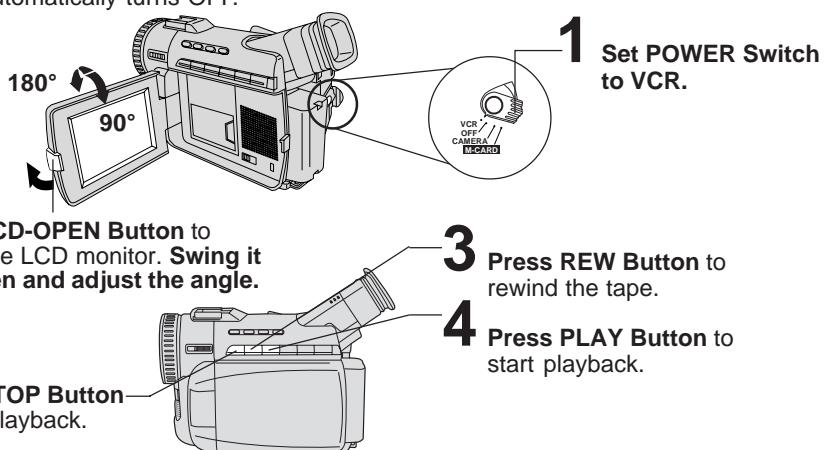
When the LCD monitor is fully open, the Viewfinder automatically turns OFF.

Before you begin

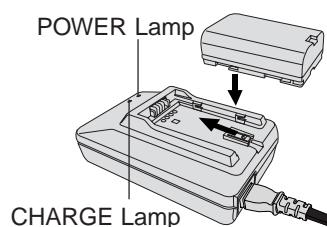
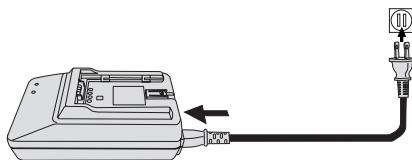
- Charge the Battery. (See page 11.)

- 2** Press LCD-OPEN Button to unlock the LCD monitor. Swing it fully open and adjust the angle.

- 5** Press STOP Button to stop playback.



Charge the Battery Pack on the AC Adaptor



1 Connect and plug in the Power Cord as shown.

- POWER Lamp will light.
- Remove the DC Cable, if attached, from the adaptor.

2 Attach the Battery as shown to charge.

- CHARGE Lamp lights up. It goes out when charging is complete (approx. 1 hour). Expect approx. 1 hour 30 minutes of operation (EVF usage) when fully charged.

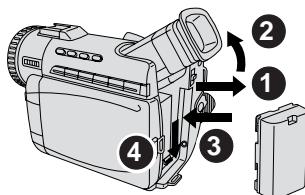
3 Remove the Battery.
Slide the Battery out and then lift up.

Note

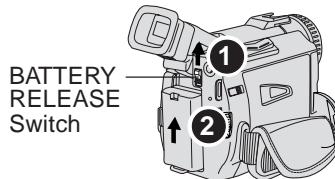
About the Flashing of the CHARGE Lamp

- Charge the Battery within an ambient temperature range of 10 °C and 30 °C.
 - If charging is done in extreme low or high temperatures, Battery charge time increases.
- CHARGE Lamp flashes when...**
- The Battery is being charged, but charging is taking longer than normal.
 - Charging is not possible. Remove the Battery once, wait a short time, then re-attach it for charging.

Insert the Battery Pack



Remove the Battery Pack



1 Slide the Viewfinder backward to its fully extended position and then tilt it upward.

2 Insert the Battery Pack and slide it down until it locks with a click.

To remove the Battery Pack:
Slide the Battery upward while sliding the BATTERY RELEASE Switch.

Supplying Power

Battery Care

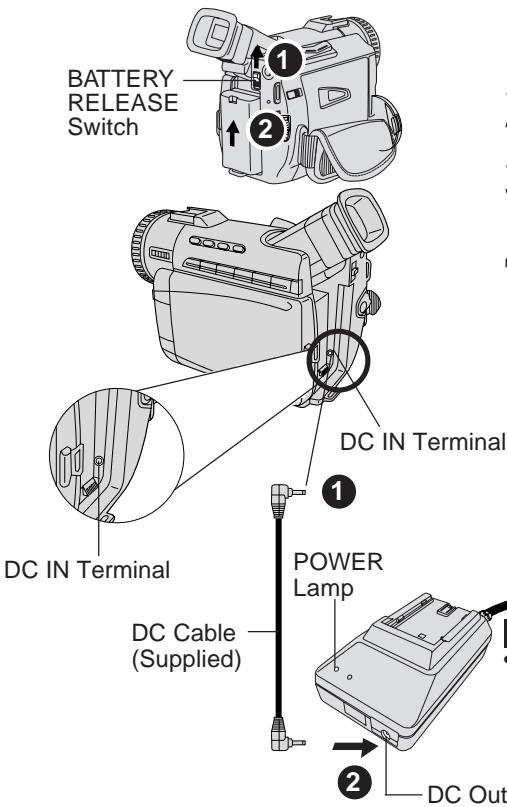
Caution:

- Charge only with specified charger.
- Charge the Battery within an ambient temperature range of 32° F (0° C) and 104° F (40° C).
- The Battery may be warm after charging or just after use. This is normal.
- Do not use an insufficiently charged or worn out Battery.
- If charging is done in extreme low or high temperatures, Battery charge time increases.

Safety precautions:

- Do not get the Battery near, or dispose of in fire.
- Do not directly connect (short circuit) the positive (+) and negative (-) terminals.
- Never attempt to disassemble or reassemble the Battery.

Use AC Adaptor



To avoid damage to the Battery:

- Do not drop or jar the Battery.
- Use the Battery with specified models only.
- If the Battery is used in extremely high temperatures, a safety device will automatically prevent operation.

To insure longer battery life:

- While not in use, remove Battery from the Palmcorder and AC Adaptor and store in a cool, dark, dry place. If you leave the Battery in the Palmcorder or on the AC Adaptor, the Battery will no longer be rechargeable.
- Keep the Battery terminals clean.

- 1 Slide the Battery upward while sliding the BATTERY RELEASE Switch to **remove the Battery Pack.** (See page 11.)
- 2 Insert the DC Cable into the DC IN Terminal.
- 3 Connect the other end of the DC Cable to the AC Adaptor as shown.
- 4 Plug in the AC Adaptor.
 - The POWER Lamp on the AC Adaptor lights up.

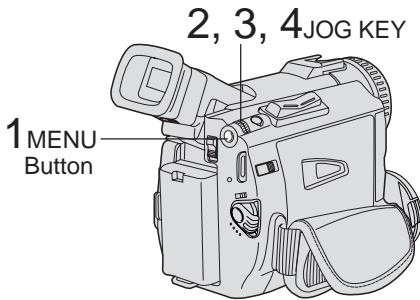
Note

- When not in use, unplug the AC Adaptor from the AC outlet. (AC Adaptor consumes 1 W of electric power when plugged into an AC outlet even when not in use.)

Setting the Clock

Set the Date and Time

The date and time is calculated, including leap year, up to DEC 31 2089.



EXAMPLE:

YEAR	: 2001
↓	Push
MONTH	: JAN
↓	Rotate
MONTH	: FEB

Note

- To make corrections, Press JOG KEY repeatedly to move back to an item and correct.
- A built-in Battery maintains clock operation. If the Palmcorder is not connected to a power source for a few months, the built-in battery may discharge and "CLOCK BATTERY" indication appears. (See page 21.)

Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to CAMERA or VCR.

- 1** Press MENU to display the Camera or VCR mode menu screen.
(See page 14.)

[CAMERA MENU] [VCR MENU]

CAMERA MENU	
1:D.FUNCTION	
2:PLAY FUNCTION	
3:REC MODE	
4:SET-UP	
5:DISPLAY SETTING	
6:LCD/EVF SETTING	
7:PHOTOTITLE	
•SELECT: ROTATE JOG KEY	
•SET : PUSH JOG KEY	
•EXIT : PUSH MENU KEY	

VCR MENU	
1:PLAY FUNCTION	
2:REC MODE	
3:PLAY MODE	
4:MULTI SETTING	
5:DISPLAY SETTING	
6:LCD/EVF SETTING	
•SELECT: ROTATE JOG KEY	
•SET : PUSH JOG KEY	
•EXIT : PUSH MENU KEY	

- 2** Rotate JOG KEY to select **DISPLAY SETTING**, and then press JOG KEY to display the DISPLAY SETTING menu screen.

- 3** Rotate JOG KEY to select **CLOCK-SET**, and then press JOG KEY to set to ON. (See pages 16, 18.)
- The DATE/TIME SETTING menu is displayed.

- 4** Rotate JOG KEY to select YEAR, then press JOG KEY to fix and move to the next item. Likewise, set the month, day, hour, and minutes.

DATE/TIME SETTING	
YEAR	: 2001
MONTH	: OCT
DAY	: 18
HOUR	: 8PM
MINUTE	: 10
•SELECT: PUSH JOG KEY	
•SET : ROTATE JOG KEY	
•EXIT : PUSH MENU KEY	

When DATE/TIME setting is completed, press MENU three times to start the clock and exit.

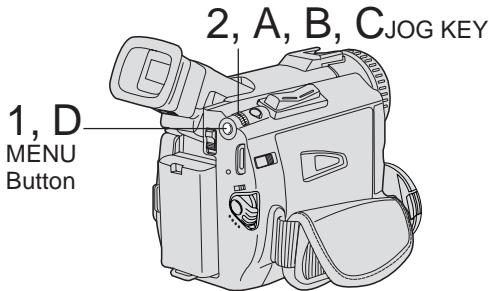
Using the Palmcorder Menu

The Palmcorder features two menu displays: one for CAMERA mode (recording) and the other for VCR mode (Playback). (See pages 15-18.)

- While the Menu screen is displayed, you cannot record on or play a tape.
- While recording, the Menu screen cannot be displayed.
- During playback, the Menu screen can be displayed.

Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to CAMERA or VCR.



CAMERA Main menu

1 : D. FUNCTION

CAMERA FUNCTION menu is displayed. To select one of the 10 digital functions (MIRROR, STROBE, MOSAIC, SLIM, TRAIL, STRETCH, GAIN-UP, WIPE, MIX, PinP).

2 : ADJUST

CAMERA ADJUST menu is displayed. To select PROG. AE, W. BALANCE, or H.S.S. (High Speed Shutter).

3 : REC MODE

CAMERA REC-MODE menu is displayed. To select REC-SPEED, AUDIO-REC, INDEX, SHUTTER, SELF-REC, or WIND-CUT.

4 : SET-UP

CAMERA SET-UP menu is displayed. To select REMOTE, BEEP, or MAGICVU.

5 : DISPLAY SETTING

DISPLAY SETTING menu is displayed. To select DISPLAY, C.RESET, DATE/TIME, or CLOCK-SET.

6 : LCD/EVF SETTING

LCD/EVF SETTING menu is displayed. To select LCD BRIGHTNESS, LCD COLOR or EVF BRIGHTNESS.

7 : PHOTO TITLE

PHOTO TITLE menu is displayed. To select TITLE or MODE.

Displaying the MENU

1 Press MENU to display the CAMERA or VCR menu (according to the POWER setting).

2 Rotate JOG KEY to select a menu item.

Setting the MENU Items (EX. VCR Mode menu)

A Press JOG KEY to set your selection.

B Rotate JOG KEY to select a menu item.

VCR PLAY FUNCTION	
D.FUNCTION	OFF MIRROR
	STROBE MOSAIC
	SLIM TRAIL
	STRETCH
D.EFFECT	● MONO SEPIA
	● GAIN-UP WIPE
	● MIX PINP
•SELECT:ROTATE JOG KEY	
•SET :PUSH JOG KEY	
•EXIT :PUSH MENU KEY	

VCR PLAY FUNCTION	
D.FUNCTION	OFF MIRROR
	STROBE MOSAIC
	SLIM TRAIL
	STRETCH
D.EFFECT	● MONO SEPIA
	● GAIN-UP WIPE
	● MIX PINP
•SELECT:ROTATE JOG KEY	
•SET :PUSH JOG KEY	
•EXIT :PUSH MENU KEY	

C Press JOG KEY to set your selection.

• The “●” mark indicates selection.

D Press MENU twice to exit the menu.

VCR Main menu

1 : PLAY FUNCTION

VCR PLAY FUNCTION menu is displayed. To select D. FUNCTION or D.EFFECT.

2 : REC MODE

VCR REC MODE menu is displayed. To select REC-SPEED.

3 : PLAY MODE

VCR PLAY MODE menu is displayed. To select INDEX, AUDIO, REMOTE, or B.SEARCH.

4 : MULTI SETTING

MULTI SETTING menu is displayed. To select SPEED.

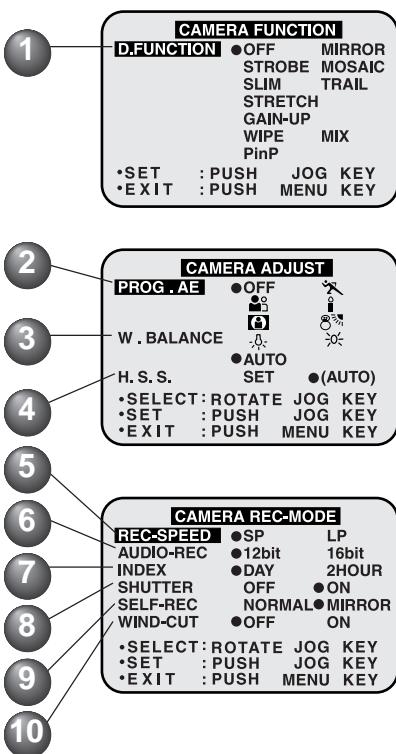
5 : DISPLAY SETTING

DISPLAY SETTING menu is displayed. To select DISPLAY, C.RESET, DATE/TIME, or CLOCK-SET.

6 : LCD/EVF SETTING

LCD/EVF SETTING menu is displayed. To select LCD BRIGHTNESS, LCD COLOR or EVF BRIGHTNESS.

Camera Mode Menu Screen



1 **DIGITAL FUNCTION** (See page 44.)
To select one of the 10 digital functions.

Setting to OFF cancels the previously selected digital function.

2 **PROG. AE** (See page 43.)
To select one of the 5 Program AE modes. Setting to OFF cancels the previously selected Program AE mode.

3 **W.BALANCE** (See page 42.)
To select one of the 3 White Balance modes.

4 **H. S. S. (High Speed Shutter)**
(See page 48.)

To select a desired shutter speed.

5 **REC-SPEED** (See page 6.)
SP: Normal recording speed mode.
LP: Recording time is 1.5 times as long as in the SP mode. For example, 120 minutes of recording is possible on a 80 minute tape.

6 **AUDIO-REC** (See page 49.)

12 bit: The sound is recorded in the 12 bit/32 kHz mode.

16 bit: The sound is recorded in the 16 bit/48 kHz high-quality mode.

7 **INDEX** (See page 30.)

DAY: An index signal is recorded when recording is restarted after the date has changed since the last recording.

2 HOUR: An index signal is recorded when recording is restarted after a lapse of more than 2 hours.

8 **SHUTTER** (See page 41.)

When set to ON, still pictures taken in the PhotoShot mode are recorded with a visual shutter effect and click sound.

9 **SELF-REC** (See page 23.)

NORMAL: During self-recording, the picture on the LCD Monitor is the same as it will be recorded.

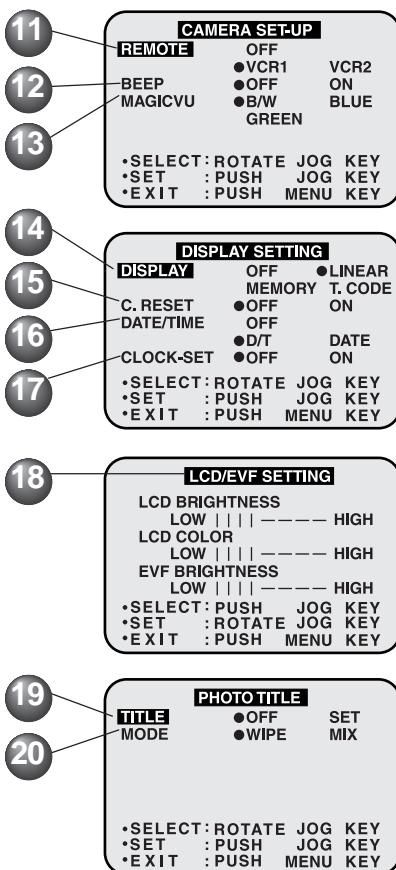
MIRROR: During self-recording, the picture on the LCD Monitor is horizontally reversed.

10 **WIND-CUT** (See page 22.)

To reduce sound distortion caused by wind hitting the microphone.

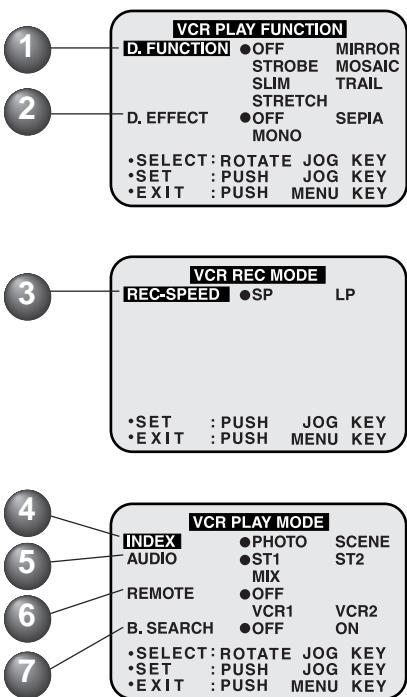
However, this slightly deteriorates the sound reproduction in the bass range.

MENU OSD



- 11** **REMOTE** (See page 26.)
VCR1: To receive signals from the Remote Control, set to VCR1.
VCR2: To receive signals from the Remote Control, set to VCR2.
OFF: To prevent reception of signals from the Remote Control.
- 12** **BEEP**
Set to ON to hear beep when starting and stopping camera recording or when unusual conditions occur. To cancel the beep, set to OFF.
Palmcorder will beep:
Once when you start recording
Twice when you stop recording
Repeatedly when warning of unusual conditions.
(See page 21.)
- 13** **MAGICVU**
(See page 42.)
To select one of the 3 MAGICVU modes slide MAGICVU/0LUX Switch to ON.
- 14** **DISPLAY** (See page 19.)
To select the desired type of display and counter indication displayed on the LCD Monitor or in the viewfinder.
- 15** **C.RESET** (See page 19.)
Setting to ON resets the counter to zero.
- 16** **DATE/TIME** (See page 20.)
The date and time can be set and displayed on the screen.
- 17** **CLOCK-SET** (See page 13.)
When set to ON, the date and time can be set on the screen.
- 18** **LCD/EVF SETTING** (See page 23.)
Setting to ON displays the menu for adjusting the LCD brightness, color level, and the EVF brightness.
- 19** **TITLE** (See page 38.)
Photo Title is recorded.
- 20** **MODE** (See page 38.)
To select one of the 2 Photo Title modes.

VCR Mode Menu Screen



1 **DIGITAL FUNCTION** (See page 44.)
To select one of the 6 digital functions. Setting to OFF cancels the previously selected digital function.

2 **D. EFFECT** (See page 44.)
To select one of the 2 digital picture effects for playback. Setting to OFF cancels the previously selected digital effect.

3 **REC-SPEED** (See page 6.)
SP: Normal recording speed mode.

LP: Recording time is 1.5 times as long as in the SP mode. For example, 120 minutes of recording is possible on an 80 minute tape.

4 **INDEX** (See page 30.)
To select the desired Index Search function.

PHOTO: To search for Photo shot pictures.

SCENE: To search for scenes marked with Index signal.

5 **AUDIO** (See page 50.)
To select the desired audio playback mode after performing audio dubbing in the 12 bit mode (SP mode only).

ST1 : The original sound alone is played back.

ST2 : The dubbed sound alone is played back.

MIX : The original sound and the dubbed sound are played back together.

6 **REMOTE** (See page 26.)

VCR1 : To receive signals from the Remote Control, set to VCR1.

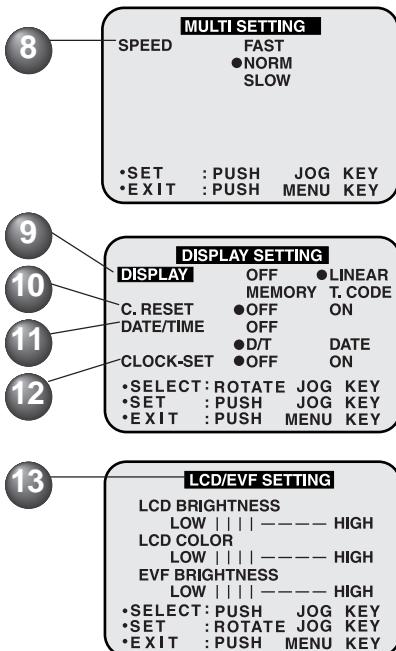
VCR2 : To receive signals from the Remote Control, set to VCR2.

OFF : To prevent reception of signals from the Remote Control.

7 **B.SEARCH (Blank Search)**
(See page 25.)

Select ON to go directly to a blank portion of the tape.

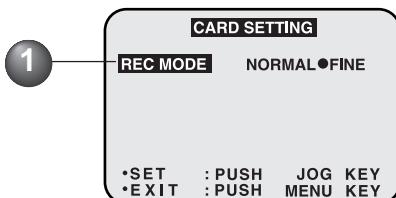
MENU OSD



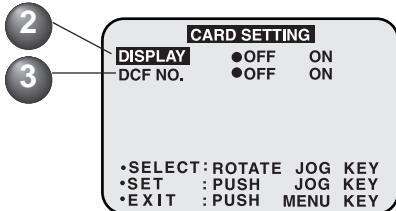
- 8 **SPEED** (See page 46.)
In Strobe Multi mode, used to select the interval at which a succession of still screens are captured from the playback picture.
FAST : Every 0.3 seconds
NORM : Every 0.6 seconds
SLOW : Every 1.0 seconds
- 9 **DISPLAY** (See page 19.)
To select the desired type of display and counter indication displayed on the LCD Monitor or in the viewfinder.
- 10 **C.RESET** (See page 19.)
Setting to ON resets the counter to zero.
- 11 **DATE/TIME** (See page 19.)
The date and time can be set and displayed on the screen.
- 12 **CLOCK-SET** (See page 13.)
When set to ON, the date and time can be set on the screen.
- 13 **LCD/EVF SETTING** (See page 23.)
Setting to ON displays the menu for adjusting the LCD brightness, color level, and the EVF brightness.

M-CARD Menu Screen

[Photo Rec Mode Menu Screen]



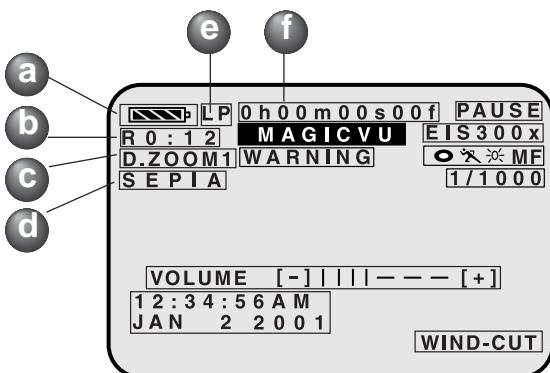
[Photo Play Mode Menu Screen]



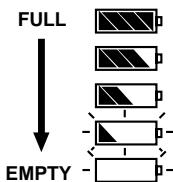
- 1 **REC MODE** (See page 32.)
To select Photo Rec Mode.
- 2 **DISPLAY** (See page 34.)
Select to OFF to cancel all Displays on the screen.
- 3 **DCF** (See page 34.)
Select to OFF to cancel DCF No. on the screen.

Electronic Viewfinder/LCD Monitor Indications

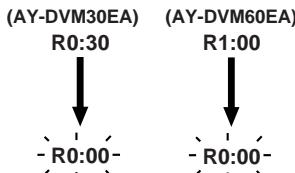
Here are some of the basic indications which will appear on the Palmcorder EVF and LCD Monitor. Only Date and Time indications will be recorded onto the tape.



a Battery Remaining



b Tape Remaining



- It will take several seconds for the tape remaining indicator to operate after the tape starts moving.

c Digital Zoom and other Digital Functions (See page 40.)

This display appears when the digital zoom function has been activated.

d Playback Effect (See page 44.)

This display appears when SEPIA or MONO is selected in VCR menu.

e Tape Speed Indication (See page 15.)

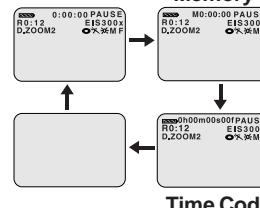
Indicates the tape speed (SP or LP).

f Display ON/OFF and Counter/Time Code

The indication switches as shown below when the desired "DISPLAY" mode is selected from the menu. (See pages 16, 18.)

- When OFF is selected, all displays are turned off.

Linear Time Counter Memory Counter



Time Code

Memory Counter M 0:00:00

The Palmcorder will stop whenever it reaches the point where the counter was previously set to M 0:00:00 during audio dub, fast forward, or rewind.

Time Code 0h00m00s00f

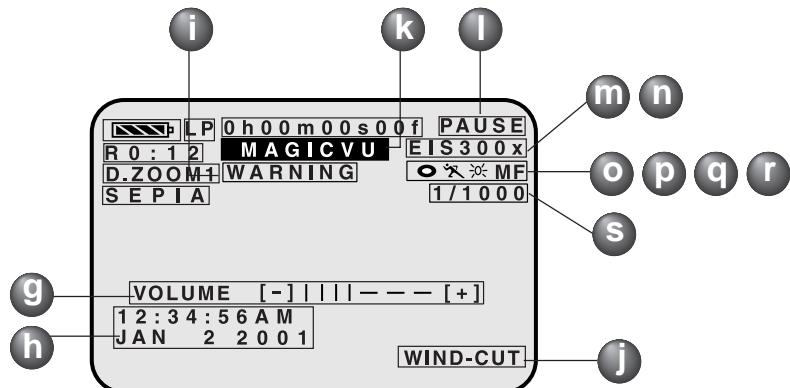
The Palmcorder calculates and displays exactly where you are on any tape in terms of hours, minutes, seconds, and frames (30 frames = 1 second).

- This display can not be reset.

IMPORTANT NOTE:

- Display must be set to ON for MF, AE, W.BALANCE or BACK LIGHT indications to be displayed on the EVF or LCD Panel when selected.
- C.RESET does not work when DISPLAY is set to OFF and T.CODE.

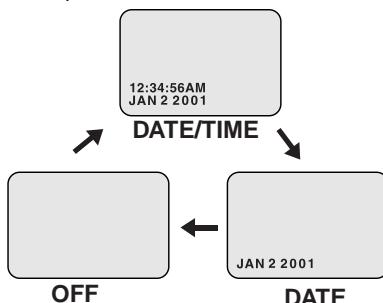
Electronic Viewfinder/LCD Monitor Indications



(g) Volume Display (See page 27.)
The volume bar appears when the volume of the built-in speaker is being adjusted.

(h) Date and Time Indication
(See pages 16, 18.)

As shown below, the date and time indication changes each time DATE/TIME is selected from the Palmcorder's MENU (see pages 16, 18) or the DATE/TIME Button is pressed on the remote.



(i) WARNING indication
(See page 21.)
The warning displays appear in the EVF and the LCD monitor.

(j) WIND-CUT indication
(See page 15.)

(k) MAGICVU
(See page 16.)
This display appears when MAGICVU is set to ON.

(l) Tape Mode Indications

REC	Recording.
PHOTO	PhotoShot recording.
PAUSE	Paused during recording.
PLAY	Playback.
R ▷	Repeat Playback.
CHK	Recording Check.
FF	Fast forward.
REW	Rewind.
▷▷	FF Search.
◁◁	REW Search.
BLANK	Blank Search.
SEARCH	Index Search.

(m) Digital EIS Indications
(See page 39.)

(n) Zoom Magnification Level
(See page 40.)

(o) Manual Focus Indication
(See page 47.)

(p) White Balance Indication
(See page 42.)

(q) PROGRAM-AE Indication
(See page 43.)

(r) Backlight Indication
(See page 47.)

(s) Shutter Mode Indication
(See page 48.)

Electronic Viewfinder/LCD Monitor Indications

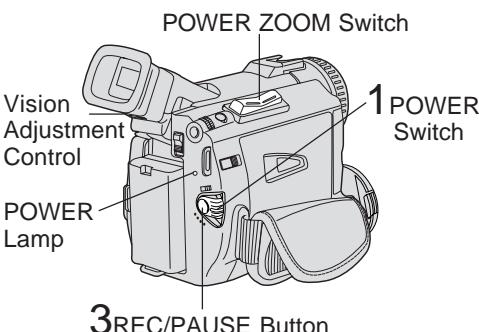
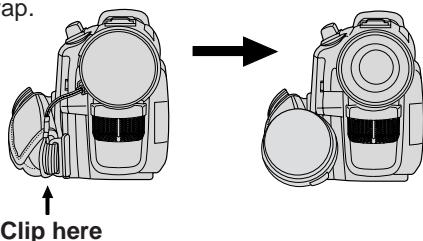
The following warning displays appear in the EVF and the LCD monitor.

Indications	Condition
 TAPE NOT INSERTED	If the Palmcorder is in CAMERA mode without a cassette inserted, “  ” will flash and “TAPE NOT INSERTED” will appear for 5 seconds. Recording will not start.
 CHECK REC TAB	If the Palmcorder is in CAMERA mode with the cassette sliding record tab opened, “  ” will flash and “CHECK REC TAB” will appear for 5 seconds. Recording will not start.
 CANNOT REC	When Audio dub is performed and the sliding record tab is open, or a blank portion of tape is detected, “  ” will flash and “CANNOT REC” will appear for 5 seconds.
 TAPE END	When the tape is about to end in REC mode, “  END” will flash and “TAPE END” will appear for 5 seconds.
INCOMPATIBLE TAPE	When an incompatible tape is detected, “INCOMPATIBLE TAPE” will appear for 5 seconds.
NEED HEAD CLEANING	If the video heads require cleaning, “NEED HEAD CLEANING” will appear for 5 seconds.
REMOTE	When the Palmcorder and remote are not set to the same mode (VCR1 or VCR2), “CHECK REMOTE MODE” appears for 5 seconds. Also appears when the Palmcorder is first turned on.
CANNOT REC LP-MODE	When an AUDIO DUB is attempted on a pre-recorded LP tape, “CANNOT REC LP-MODE” will appear for 5 seconds.
 DEW DETECTED	If excessive moisture condenses in the unit, “WARNING” will flash, “DEW DETECTED” will appear, and the Palmcorder will automatically turn OFF in 15 seconds. In this case, wait until the indicator no longer flashes when your Palmcorder is turned ON again.
 LOW BATTERY	When a battery recharge is necessary, “WARNING” will flash, “LOW BATTERY” will appear, and the Palmcorder will automatically turn OFF in 15 seconds. (See page 19.)
CLOCK BATTERY	When the built-in lithium clock battery is discharged, “CLOCK BATTERY” will appear. To re-charge the lithium clock battery, connect the AC Adaptor to the Palmcorder. Recharging takes approx. 4 hours. Reset the clock after charging.
INCOMPATIBLE DATA	If you play tape recorded in a format other than NTSC or you try to copy a copy-protected data. “INCOMPATIBLE DATA” will appear.
NO SPACE LEFT	When a still image is transferred from a tape to an already full Memory Card, “NO SPACE LEFT” appears.
DISCONNECT DV CABLE	If the Palmcorder is in M-CARD mode or Photo Title (CAMERA mode) and the DV Interface Cable (i.LINK) is connected, “DISCONNECT DV CABLE” appears. In this case, remove the DV Interface Cable (i.LINK) from the Palmcorder.

Camera Recording

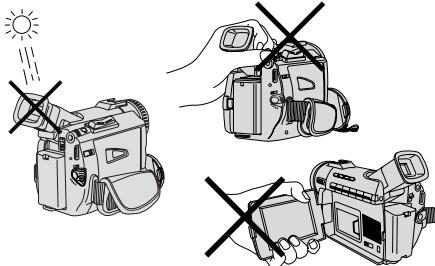
Simple Recording

Remove the lens cap and clip it to the hand strap.



WARNING:

- Do not leave the Palmcorder with the EVF aimed directly at the sun as this may cause damage to the internal parts of the EVF.
- Do not lift, or carry, the Palmcorder by the EVF or the LCD Monitor.



Zoom

You can gradually zoom in for close ups or zoom out for wide angle shots.

Zoom slowly : by lightly pressing the "T" (Telephoto) or the "W" (Wide Angle) side of the POWER ZOOM Switch.

Zoom quickly : by applying more pressure.

Note

- The zooming speed ranges from a slow 22 seconds to a fast 2 seconds according to the amount of pressure applied to the POWER ZOOM Switch.

Before you begin

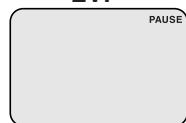
- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Insert a cassette with record tab closed. (See page 6.)

1

Set POWER to CAMERA.

- The POWER Lamp lights red.
- Be sure POWER is fully turned to CAMERA position.

EVF



REC/PAUSE mode

2

With the Viewfinder Eye Cup up to your eye, adjust the Vision Adjustment Control to your eyesight. (See page 9.)

3

Press REC/PAUSE to start recording.

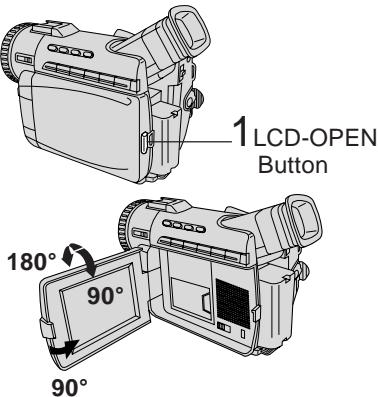
- "REC" is displayed on the screen.
- Press REC/PAUSE again to pause recording.
- To reduce microphone wind noise, set the WIND-CUT to ON. (See WIND-CUT on page 15.)
- When the Palmcorder is aimed at excessively bright objects, or bright lights, a vertical bar may appear in the picture. This is a normal characteristic of the CCD pick-up device. Try to avoid this whenever possible.

To conserve power

After 5 minutes, the Record/Pause mode will automatically change to Standby mode. To resume recording, set POWER to OFF and then ON again.

Using the LCD Monitor

The LCD (Liquid Crystal Display) monitor can be used while recording.



To adjust the LCD BRIGHTNESS or COLOR

A Press MENU to display the main menu screen.

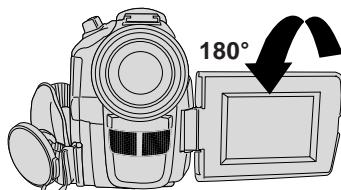
B Rotate JOG KEY to select **LCD/EVF SETTING** from the main menu screen. (See pages 16, 18.)

C Press JOG KEY to display the LCD/EVF SETTING screen.

D Press JOG KEY to select LCD BRIGHTNESS or LCD COLOR, then rotate JOG KEY to adjust.

E Press MENU twice to exit this mode.

Self Recording



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Insert a cassette with record tab closed. (See page 6.)

1 Press **LCD-OPEN** to unlock the LCD monitor.

2 Swing the LCD monitor fully open and adjust the viewing angle.

- The LCD monitor will automatically turn on.
- When the LCD monitor is completely closed, it will shut off automatically to save power.
- Adjust the LCD Brightness and/or color of the LCD monitor if necessary. Please refer to "To adjust the LCD BRIGHTNESS or COLOR" below.

3 Start recording. (See page 22.)

Note

- Using the LCD monitor will reduce battery operating time.
- Close the LCD monitor completely when not in use.

LCD/EVF SETTING
LCD BRIGHTNESS
LOW ----- HIGH
LCD COLOR
LOW ----- HIGH
EVF BRIGHTNESS
LOW ----- HIGH
•SELECT: PUSH JOG KEY
•SET : ROTATE JOG KEY
•EXIT : PUSH MENU KEY

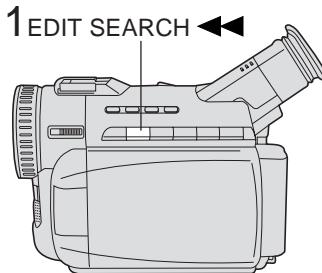
Rotate the LCD monitor 180 degrees so it faces the same direction as the lens to record yourself (CAMERA mode). The picture in the LCD monitor will appear reversed.

Set **SELF-REC** to MIRROR (see page 15) in the Camera mode menu screen to see the picture as it is actually being recorded.

Camera Recording

Recording Check

To playback the final few seconds of the last recorded scene in the REC/PAUSE mode.



- 1 Press **EDIT SEARCH** briefly in the REC/PAUSE mode.

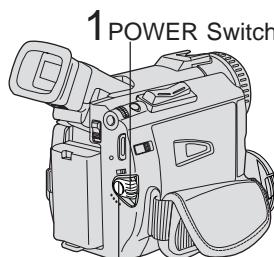
The [CHK] indication appears.
After checking, the Palmcorder returns to the REC/PAUSE mode.

- For Recording Check, the Palmcorder must be in the same mode (SP or LP) as was used for recording, otherwise the playback picture is distorted.



Edit Search

You can visually search for scenes in CAMERA mode to maintain proper continuity when taping.



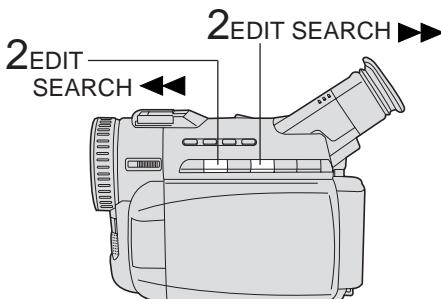
- 1 Set **POWER** to **CAMERA**.
 - The POWER Lamp lights red.
 - Be sure POWER is fully turned to CAMERA position.

- 2 In REC/PAUSE mode, hold down **EDIT SEARCH** to perform a forward visual search or **EDIT SEARCH** to perform a reverse visual search. Releasing the button stops the search.

- 3 Press **REC/PAUSE** to continue recording.

Note

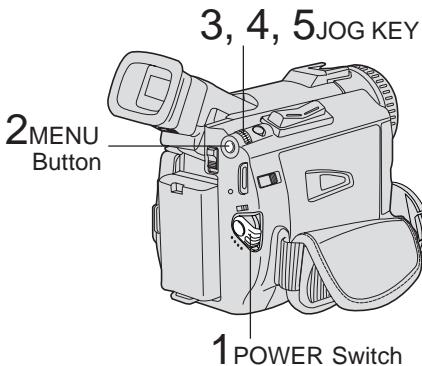
- During Edit Search, the picture will become mosaic in both and search, the sound will be muted in reverse visual search.
- Make sure the SP/LP tape speed setting is the same as the recording to eliminate distortion during edit search.



Camera Recording

Blank Search

You can go directly to a blank portion of tape and start recording exactly where you left off.



Remote Control

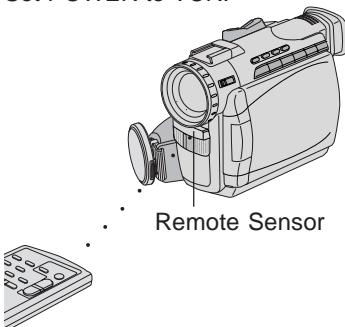
You can operate the major functions of your Palmcorder from up to approximately 16 feet (5 m) away (indoors). Aim the IR Remote Control toward the front of the Palmcorder and press the desired buttons (Remote Sensor is located under the lens).

To operate Camera functions:

Set POWER to CAMERA.

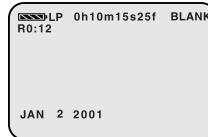
To operate VCR functions:

Set POWER to VCR.



Basic Operation

- 1 Set the **POWER** to **VCR**.
 - The **POWER** Lamp lights red.
 - Be sure **POWER** is fully turned to **VCR** position.
- 2 Press **MENU** to display the **VCR** mode menu screen.
- 3 Rotate **JOG KEY** to select **PLAY MODE**, then press **JOG KEY** to display the **VCR PLAY MODE** menu screen.
- 4 Rotate **JOG KEY** to select **B.SEARCH** in the **VCR PLAY MODE** menu.
(See page 17.)
- 5 Press **JOG KEY** to select **ON**.
 - "BLANK" will appear on the screen.



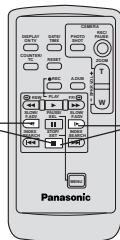
Controlled Functions

- Rec/Pause (See page 22.)
- Tele (Zoom) (See page 22.)
- Wide (Zoom) (See page 22.)
- Date/Time (See page 20.)
- Reset (See page 50.)
- PhotoShot (See page 41.)
- Display On TV (See page 31.)
- Counter/Time Code (See page 19.)
- Audio Dubbing (See page 49.)
- Record (See page 52.)
- Menu (See page 14.)
- Play (See page 27.)
- FF/Search (See page 28.)
- REW/Search (See page 28.)
- Pause>Select (See pages 14, 28.)
- Stop/Set (See pages 14, 27.)
- Slow/Frame Advance (Forward) (See pages 28, 29.)
- Slow/Frame Advance (Backward) (See pages 28, 29.)
- Index Search (Forward) (See page 30.)
- Index Search (Backward) (See page 30.)
- Speaker Volume (See page 27.)

Remote Control (Optional)

Remote Controlling Two Palmcorders

You can control any two Panasonic Palmcorders with one Remote control. In order for the remote to distinguish between the two units, it is necessary to set one of the Palmcorders to VCR 2. On the remote, press VCR 1 or VCR 2 to control the desired Palmcorder.

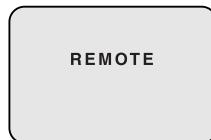


For VCR 2 :
Press these buttons at the same time.

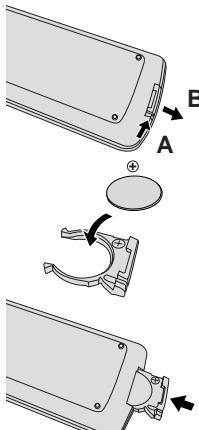
For VCR 1 :
Press these buttons at the same time.

Note

- When the Palmcorder and remote are not set to the same mode (VCR1 or VCR2), "CHECK REMOTE MODE (REMOTE)" will appear.



Replace the Battery



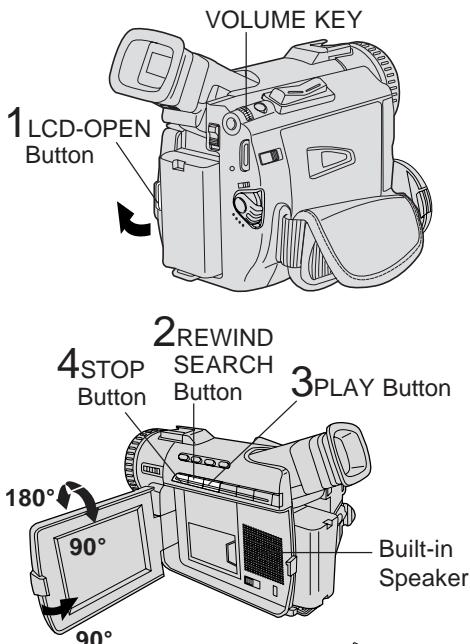
- 1 While pressing the tab in the direction of the arrow (A) with your fingernail, pull out the Battery Tray (B).
- 2 Insert the battery into the Battery Tray with the \oplus mark facing down.
Do not reverse the polarity.
- 3 Insert the Battery Tray.

Replace battery with Panasonic PART NO. VSBW0004 (CR2025) only. Use of another battery may present a risk of fire or explosion. Caution: battery may explode if mistreated. Dispose of used battery properly. Keep away from children. Do not recharge, disassemble or dispose of in fire.

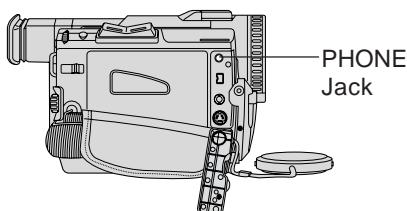
Playback your Recordings

Playback using the LCD Monitor

You can also use the LCD monitor to playback your recording.



You can place the Palmcorder on a table, etc. for viewing. Rotate the LCD Monitor 180° and swing it up against the Palmcorder body as shown.



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Insert a recorded cassette.
- Set POWER to VCR.

1 Press LCD-OPEN to unlock the LCD monitor and swing open.

2 Press REWIND/SEARCH to rewind the tape.

3 Press PLAY to start playback.

To adjust the volume:

A Hold down VOLUME KEY until the volume setting screen appears. (See page 20).

B Rotate VOLUME KEY to adjust the volume of the built-in speaker. To remove the volume setting screen, hold down VOLUME KEY again.

• Adjust the picture on the LCD monitor if needed. (See page 23.)

4 Press STOP to stop playback.

- When the tape reaches its beginning during rewind or rewind search, it will stop automatically.
- If you press PLAY for more than 5 seconds, the Palmcorder will go into Repeat Playback mode when the tape reaches its end. The letter "R ▷" will appear in the EVF and LCD monitor. To exit the Repeat Playback mode, turn the Palmcorder OFF.

R▷

Note

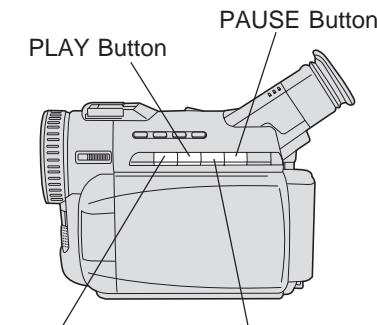
- When a tape recorded in LP mode on another digital video camera is played back on this unit, the picture may appear mosaic.
- Using the LCD monitor reduces battery operating time.
- You can connect earphones (not supplied) to the PHONE JACK.

Playback Your Recordings

Special Effect Features During Playback

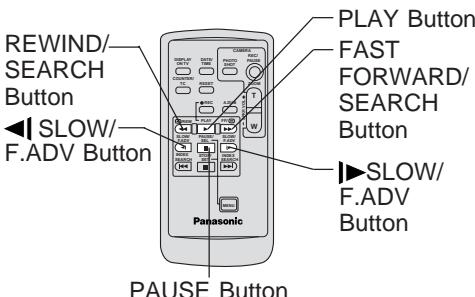
Note

- Sound is muted during all special effects.



A, B REWIND/
SEARCH Button

A, B FAST FORWARD/
SEARCH Button



Fast Forward/Rewind Check

Monitor normal picture playback during fast forward or rewind.

- Hold down **FAST FORWARD/SEARCH** during fast forward.
- Hold down **REWIND/SEARCH** during rewind.
- The picture will appear for as long as the button is held down.

Rapid Visual Search

A

During playback, hold down **FAST FORWARD/SEARCH** or **REWIND/SEARCH**.

The search will continue for as long as the button is held down.

OR

B

Press **FAST FORWARD/SEARCH** or **REWIND/SEARCH** once for a continuous rapid visual search.

Press **PLAY** to release.

Note

- When executing a rapid visual search, the picture may become bluish for an instant or mosaic. This is normal during this mode.



STILL Picture

Press **PAUSE** during playback.

Press **PLAY** or **PAUSE** to release.

Note

- To protect the tape and video heads, your Palmcorder's operating modes will revert as follows:

STILL → STOP (after 3 minutes.)

Slow Motion Playback

(Remote Control Only)

Forward Slow = Press **|> SLOW/F.ADV** during play.

Reverse Slow = Press **<| SLOW/F.ADV** during play.

Press **PLAY** to release. (During reverse slow motion playback, time code indication may not change regularly.)

Note

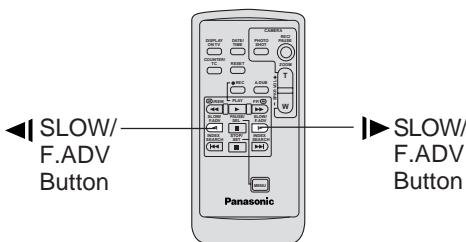
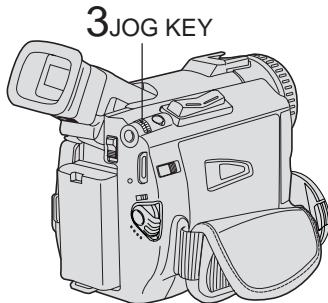
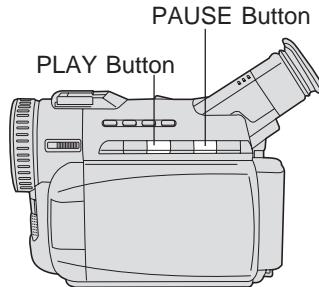
- Palmcorder will automatically STOP when in slow motion for more than 10 minutes.
- During slow motion playback, picture may move up and down. This is normal.
- When you start or stop slow motion playback, the picture may become bluish for an instant.

Playback Your Recordings

Special Effect Features During Playback (Continued)

Note

- Sound is muted during all special effects.



Variable Speed Search

- 1 Press PLAY to start playback.
- 2 Press PLAY again.
- 3 Rotate JOG KEY to adjust the playback speed.
 - Rotate JOG KEY downward for forward playback.
 - Rotate JOG KEY upward for reverse playback.

To return to normal playback:
Press PLAY. Playback will continue at normal speed.

Note

- The Variable Speed Search function offers a choice of six playback speeds (1/5X, 1X, 2X, 5X, 10X, 20X) both in forward and reverse directions.
- The review playback at the 1X speed is playback in reverse direction.
- During the Variable Speed Search (at a speed other than 1X), mosaic-like patterns will appear in the picture.
- During the Variable Speed Search, sound is muted.

Jog Frame by Frame Search

(Palmcorder only)

During Still mode, rotate JOG KEY to advance or reverse the picture one frame at a time.

Frame by Frame Advance

(Remote Control Only)

Press PAUSE during playback.

Press ▶ SLOW/F.ADV to do a frame by frame advance.

Press ▲ SLOW/F.ADV to do a frame by frame reverse.

Press PLAY to release.

Note

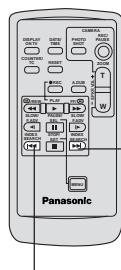
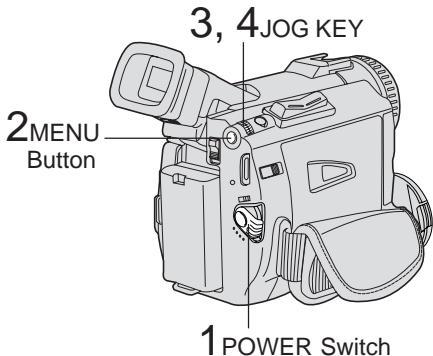
- If you hold down SLOW/F.ADV, you can see a continuous series of still images at a slower speed than normal slow mode.
- During frame by frame advance, a few frames may move automatically, and the picture may become bluish for an instant.

Playback Your Recordings

Special Effect Features During Playback (Continued)

Note

- Sound is muted during all special effects.



B INDEX SEARCH (fast forward) Button

Top Scan

If you hold down INDEX SEARCH more than 2 seconds, the Palmcorder will scan for scenes (or PhotoShots) and playback the first few seconds of each.

To cancel this function, press PLAY or STOP.

Note

- Search will not work if there is a succession of PhotoShots.

Index Forward/Reverse Search (Remote Control Only)

Search for a particular scene by using the electronic index marks placed at the beginning of each recording.

- 1 Set the **POWER** to **VCR**.
 - The **POWER** lamp lights red.
 - Be sure **POWER** is fully turned to **VCR** position.
- 2 Press **MENU** to display the **VCR mode** menu screen.
- 3 Rotate **JOG KEY** to select **PLAY MODE**, then press **JOG KEY** to display the **VCR PLAY MODE** menu screen.
- 4 Rotate **JOG KEY** to select **INDEX**, and then press **JOG KEY** to select **PHOTO** or **SCENE**. (See page 17.)

A Place the Palmcorder in the VCR STOP mode.

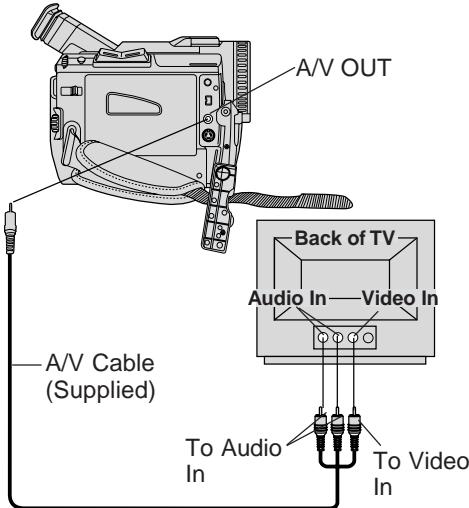
B Press INDEX SEARCH fast forward or rewind the number of recordings (indexes) forward or back you want to view. The Palmcorder will advance or rewind to the desired recording and automatically start playback.

- The number of times you pressed the button is displayed in the EVF and the LCD monitor if you set **INDEX** on the **VCR** menu to **SCENE**. (See page 17.) (Ex., if you press the button three times, "S3" will appear.)
- If the interval between scenes is less than 1 minute, index search may not operate properly.
- Response time from pressing the button and change in the scene number is quite slow. Do not press INDEX SEARCH rapidly and continuously.
- During Reverse Index Search mode, playback will not begin when a tape rewinds all the way to the beginning.

Playback Your Recordings

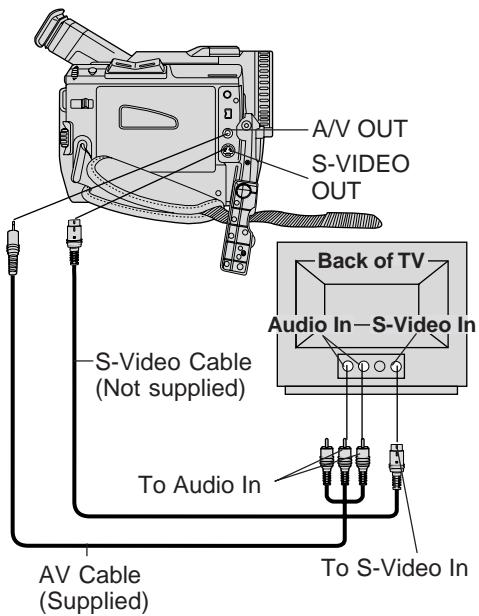
View Recording/Playback on your TV

[TV with AUDIO/VIDEO IN Jacks]



[TV with S-VIDEO IN Jacks]

For best Chrominance and Luminance, use the S-Video connection if available on your TV.



1 Set POWER to CAMERA or VCR.
To view what the Palmcorder is recording or to playback a tape on your TV.

2 Turn your TV ON and set it to LINE INPUT or S-VIDEO.

INPUT SOURCE
Check your TV operating instructions for further information.

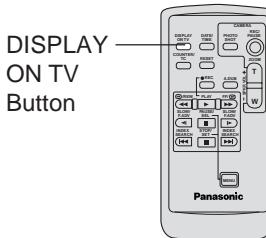
3 Start playback or begin a recording.

Note

- Make sure the Palmcorder and TV are turned off while connecting.
 - Please connect the A/V Cable securely.

(Remote Control Only)

You can display the various EVF and LCD indications on your TV by pressing DISPLAY ON TV on remote control. Press again to remove the indications.



CATV System Installer

This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC in USA (and to the Canadian Electrical code in Canada) that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Card Features

Card PhotoShot

You can record still images to a Memory Card.

Warning

- Memory Card will not work when DV interface Cable (i.LINK) is connected.

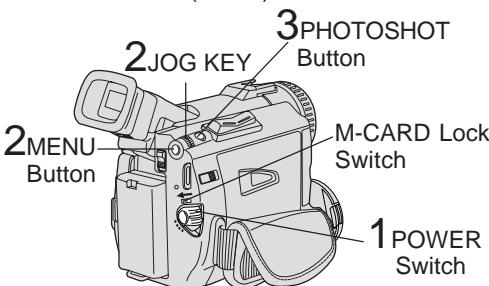


Image Resolution and Capacity (supplied 8 MB MultiMediaCard)

REC Mode	Image Resolution	Capacity
FINE	640 x 480	Approx. 60 images
NORMAL	320 x 240	Approx. 240 images

- The number of images given for each mode applies when all images are taken in same mode.
- You can change recording modes at any time before capturing an image.
- The number of images that can be captured may differ depending on the subject. After capturing an image, the number may not decrease, or it may decrease by two. This is normal.

Warning

- While "PROCESSING" is displayed, **DO NOT turn off the Palmcorder or unplug the AC Adaptor** (supplied) because this will cause irreversible damage to the memory.

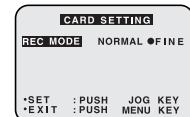
Cautions for the Memory Card

- While Memory Card data is being read, do not remove it, turn off the power, or subject unit to vibrations and shocks.
- Do not leave the Memory Card in a place with high temperature, exposed to direct sunlight, or where electromagnetic waves and static electricity can be generated.
- Electromagnetic waves, static electricity, malfunction of the Palmcorder or of the Memory Card itself could erase the data recorded on it. To prevent the loss of picture data, we recommend that you make a backup copy on the computer.
- Do not bend or drop the Memory Card as this could damage it or the captured contents.
- Do not touch the connector on the rear edge of the Memory Card with your fingers and take care that no dirt, dust or water enters it.
- Do not affix other labels to the Memory Card face or back as Card insertion/removal may become impossible.

Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to OFF before inserting a Memory Card. (See page 10.)

- 1 Slide the M-CARD Lock Switch to unlock, then set POWER to M-CARD.
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to M-CARD position.
 - "PLAY: PUSH PLAY KEY" is displayed for 10 seconds. (See page 33.)
- 2 Press MENU to display CARD SETTING menu, then press JOG KEY to select **NORMAL** or **FINE**.



- 3 • Press MENU to exit this menu.
- 3 Press PHOTOSHOT to record an image.



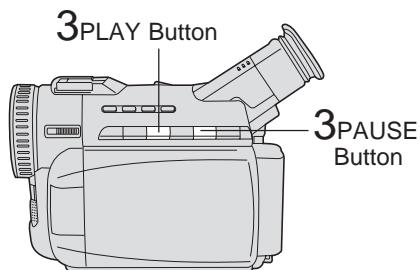
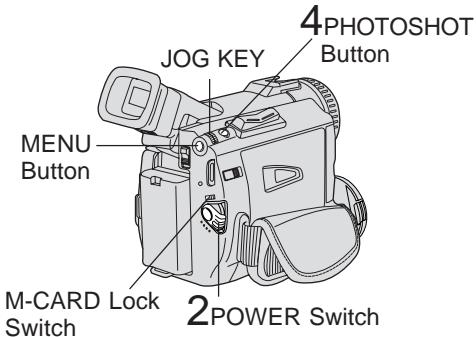
- The PhotoShot image is recorded to the Memory Card.
- When SHUTTER is set to ON (see page 15), still pictures are recorded with a visual shutter effect and click sound. If set to OFF, the still image will be displayed only.

Recording images From a Tape

You can record still images from a cassette tape to a Memory Card.

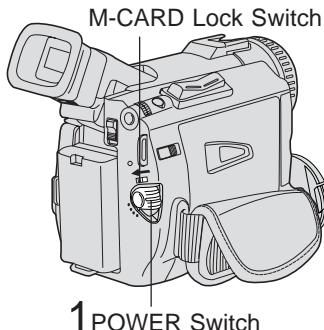
Warning

- Memory Card will not work when DV interface Cable (i.LINK) is connected.



Playback Still Images

You can view the images on the Memory Card.



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to OFF before inserting a Memory Card. (See page 10.)

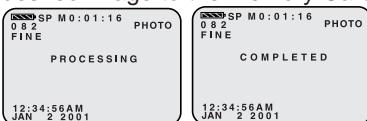
1 Repeat steps 1 and 2 on page 32.

2 Set POWER to VCR.

- The POWER lamp lights red.
- Be sure POWER is fully turned to VCR position.

3 Press PLAY to start playback of the cassette tape. And then, press PAUSE to select an image.

4 Press PHOTOSHOT to record the desired image to the Memory Card.



- When PHOTOSHOT is pressed in PLAY or SLOW mode, the screen goes to STOP mode.
- To playback the images of the Memory Card, see pages 33~34.
- When Variable Speed Search is done (see page 29), this feature can not be used.

5 Repeat steps 3~4 to record another image to the Memory Card.

Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to OFF before inserting a recorded Memory Card. (See pages 32, 33.)

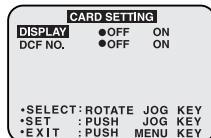
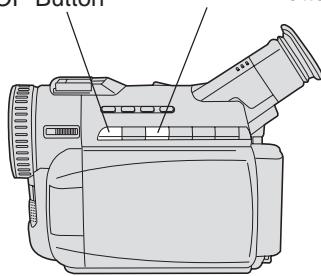
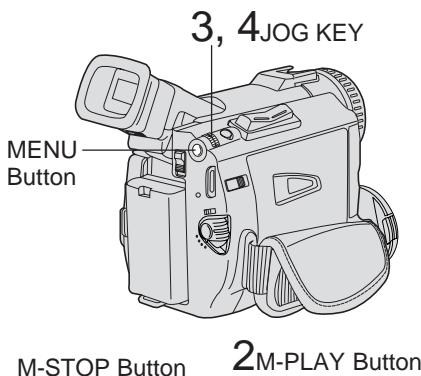
1 Slide the M-CARD Lock Switch to unlock, then set POWER to M-CARD.

- The POWER lamp lights red.
- Be sure POWER is fully turned to M-CARD position.
- "PLAY: PUSH PLAY KEY" is displayed for 10 seconds.



(Continued on next page.)

Card Features



DISPLAY : Select OFF to remove all displays from the screen.

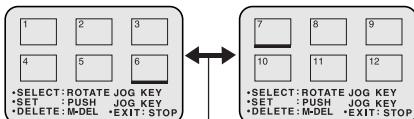
DCF (Design rule for Camera File system)

- : Select OFF to cancel DCF No. on the screen.

Note

- If the file number is changed, the Palmcorder cannot read the file data.
- This product is compliant with DCF (Design rule for Camera File System). Images saved on the Memory Card using other Digital Still Cameras that are compliant with DCF can be viewed on this product.

- 2** Press **M-PLAY** to display the Multi playback screen.
- “PLEASE WAIT” appears on-screen.
 - Rotate JOG KEY to scroll through Multi image screen pages (6 images per page) and select an image.
 - The selected image is underlined in green.

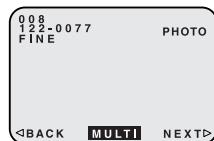


“PLEASE WAIT” is displayed.

- Press **MENU** to display CARD SETTING menu screen.
- Press **M-STOP** to return to the Card PhotoShot REC Mode. (See page 32.)

- 3** Press **JOG KEY** to display the selected image as a full-size screen.
- “PLEASE WAIT” appears on-screen.

- 4** Rotate **JOG KEY** to select **BACK** (previous image), **MULTI** (Multi Image screen), or **NEXT** (next image).



- Press **M-STOP** to return to the Multi Playback screen.

Warning

- While “PLEASE WAIT” is displayed, **DO NOT turn off the Palmcorder or unplug the AC Adaptor (supplied)** because this will cause irreversible damage to the memory.

Card Features

Delete Specific Images

You can delete unwanted images and increase the remaining image memory.

Warning:

Once deleted, images cannot be restored.

DELETE PAGE

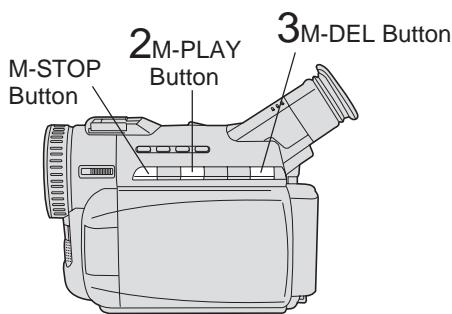
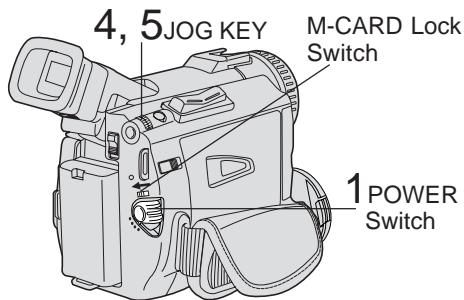
Delete specific images from a page.

DELETE ALL

Delete all images. (See page 36.)

FORMAT

Delete all data. (See page 37.)



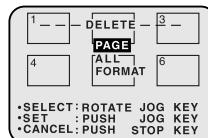
Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to OFF before inserting a recorded Memory Card. (See pages 32, 33.)

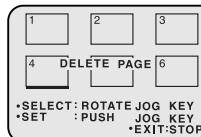
1 Slide the M-CARD Lock Switch to unlock, then set POWER to M-CARD.
• The POWER lamp lights red.
• Be sure POWER is fully turned to M-CARD position.
• “PLAY: PUSH PLAY KEY” is displayed for 10 seconds.

2 Press M-PLAY to display the Multi playback screen.
• “PLEASE WAIT” appears on-screen.

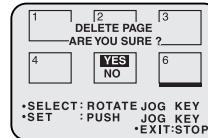
3 Press M-DEL to display the DELETE menu, then rotate and press JOG KEY to select PAGE.



• DELETE PAGE menu is displayed.



4 Rotate and press JOG KEY to select and set the image to be deleted.
• The selected image is underlined in pink.



5 Rotate JOG KEY to select YES, and press JOG KEY to delete the selected image.
• To cancel delete, press M-STOP or rotate and press JOG KEY to select NO.
• “PLEASE WAIT” appears on-screen.
• To delete other images, repeat steps 4~5.

Warning

- While deleting image, DO NOT turn off the Palmcorder or unplug the AC Adaptor (supplied) because this will cause irreversible damage to the memory, resulting in reduced image storage capacity.

Special Features

Card Features

Delete All Image Pages

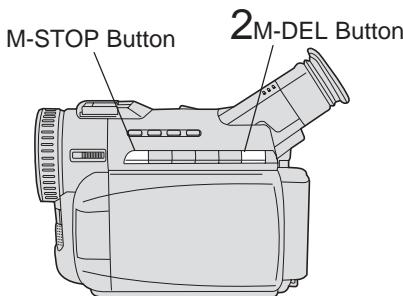
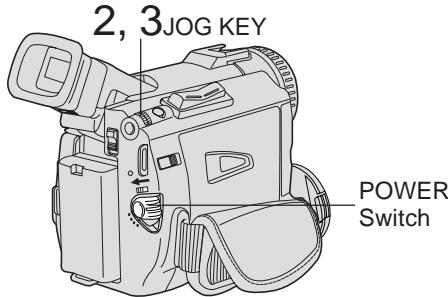
You can delete all images from the Memory Card easily with this operation.

Warning:

Once deleted, images cannot be restored.

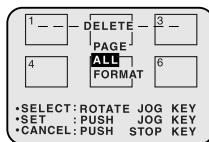
Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to OFF before inserting a recorded Memory Card. (See pages 32, 33.)

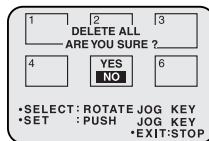


1 Do steps 1 and 2 on page 35.

2 Press M-DEL to display the DELETE menu. Then, rotate and press JOG KEY to select ALL.

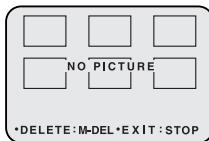


- The screen below is displayed.
- To cancel delete, press M-STOP or rotate and press JOG KEY to select NO.



3 Rotate and press JOG KEY to select YES.

- "PLEASE WAIT" is displayed on the screen, and then "NO PICTURE" is displayed.



- Press M-STOP to return to the Card PhotoShot REC Mode screen. (See page 32.)

Warning

- While deleting image, DO NOT turn off the Palmcorder or unplug the AC Adaptor (supplied) because this will cause irreversible damage to the memory, resulting in reduced image storage capacity.

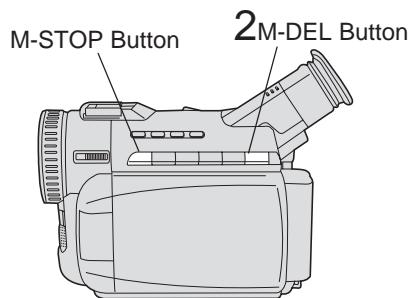
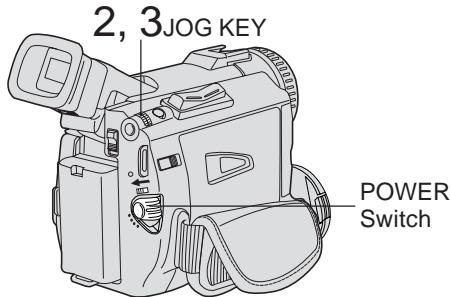
Card Features

Format the Memory Card

You can easily format your Memory Card using this operation.

Warning:

Formatting permanently removes all image data.

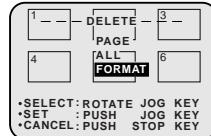


Before you begin

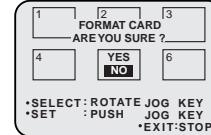
- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to OFF before inserting a recorded Memory Card. (See pages 32, 33.)

1 Do steps 1 and 2 on page 35.

2 Press M-DEL to display the DELETE menu, then rotate and press JOG KEY to select FORMAT .

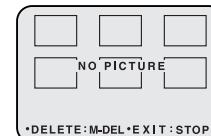


- The screen below is displayed.
- To cancel format, press M-STOP or rotate and press JOG KEY to select NO.



3 Rotate and press JOG KEY to select YES .

- “PLEASE WAIT” is displayed on the screen as all image data is deleted from Memory Card. Deletion is complete when “NO PICTURE” is displayed.



- Press M-STOP to return to the Card PhotoShot REC Mode screen. (See page 32).

Warning

- While deleting image, DO NOT turn off the Palmcorder or unplug the AC Adaptor (supplied) because this will cause irreversible damage to the memory, resulting in reduced image storage capacity.

Special Features

Card Features

Photo Title

You can record PhotoShot images from a Memory Card to a cassette to be used as a WIPE or MIX effect.

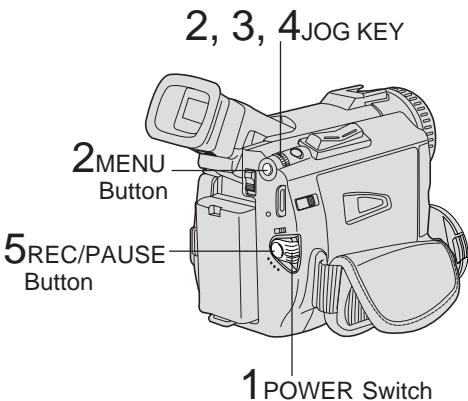
Note

When Photo Title is set to ON, the selected image and Title will appear before each recording is made.

WIPE : The Photo title is replaced with the current scene in a wiping motion.



MIX : The photo title is replaced with the current scene in a gradual mixing effect.



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER to OFF before inserting a recorded Memory Card. (See pages 32, 33.)

1

Set POWER to CAMERA.

- The POWER lamp lights red.
- Be sure POWER is fully turned to CAMERA position.

2

Press MENU to display the CAMERA menu screen. Then rotate and press JOG KEY to select PHOTO TITLE.

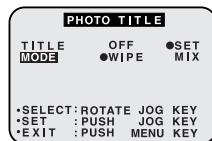


3

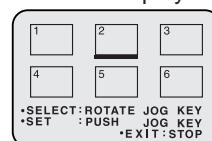
Rotate and press JOG KEY to select and set MODE and then TITLE.

1st : Select and set MODE (WIPE or MIX).

2nd : Select and set TITLE to "SET".



- "PLEASE WAIT" appears on-screen.
- The Multi image screen is displayed.



4

Rotate and press JOG KEY to select and set an image.

- "PLEASE WAIT" is displayed while image is processed. Then, "PHOTO TITLE SET" is displayed for approx. 3 seconds, and the screen goes back to the Camera mode screen.
- After Photo Title is performed, Digital Function turns off.
- There are 12 pre-installed files.

5

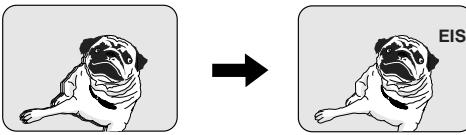
Press REC/PAUSE to start recording with Photo Title.

- WIPE or MIX screen is displayed at beginning of the recording. Then the Photo Title setting will be cleared automatically.

Special Features

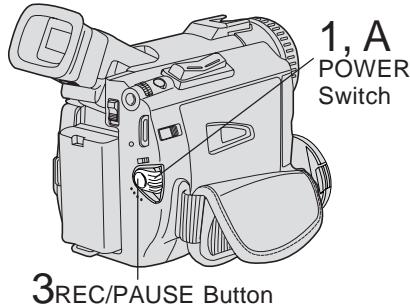
Dual Digital Electronic Image Stabilization System (D.EIS)

This feature helps compensate for any unintentional hand or body movement. It can be used in both the Recording and Playback (VCR) modes.

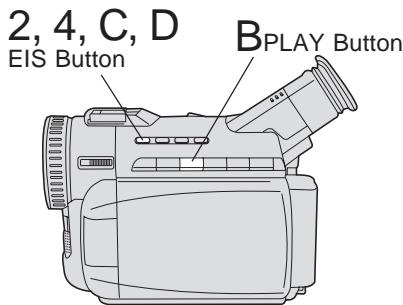


NORMAL

EIS ON



3 REC/PAUSE Button



Note

- Other Digital Functions are turned off automatically when the EIS and Digital Zoom are selected.

CAMERA mode

1

Set POWER to CAMERA.

- The POWER lamp lights red.
- Be sure POWER is fully turned to CAMERA position.

2

Press EIS to stabilize the picture.

- Picture flicker may be observed when taping under fluorescent lighting conditions.
- The EIS indicator flashes when the light level is inadequate.
- Turn D.EIS OFF during recording when using a tripod.

3

Press REC/PAUSE to start recording.

4

Press EIS again to cancel.

- Be sure that D.EIS is turned off when not needed.

D.EIS may not function when...

- Palmcorder movement is too extreme.
- Recording a subject with distinct horizontal or vertical stripes.
- Recording in low light situations.
- Recording a subject under a great amount of fluorescent light.
- Recording a scene with very fast motions.

VCR mode

A

Set POWER to VCR.

- The POWER lamp lights red.
- Be sure POWER is fully turned to VCR position.

B

Press PLAY to start playback.

C

Press EIS to stabilize the picture.

D

Press EIS again to cancel.

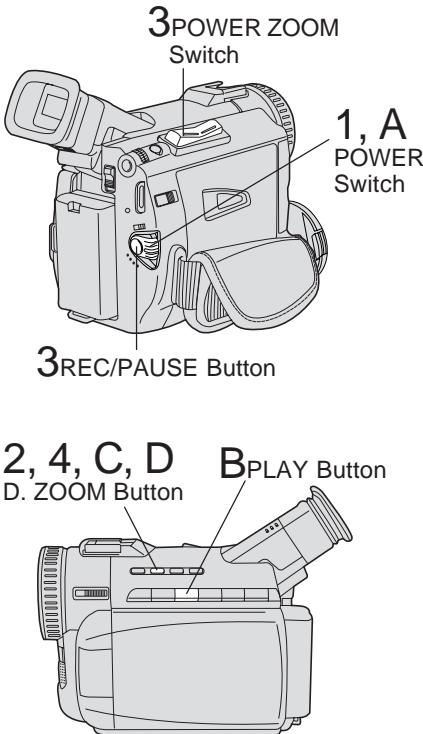
- Be sure that D.EIS is turned off when not needed.

Note

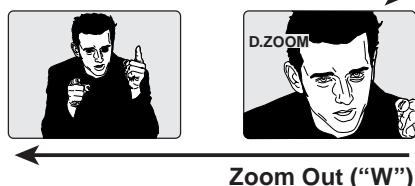
- When using D.EIS in VCR mode, the image size is slightly larger.

Special Features

Digital Zoom



Zoom In ("T")



Note

- Other Digital Functions are turned off automatically when the EIS and Digital Zoom are selected.

CAMERA mode

- 1 Set POWER to **CAMERA**.
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to **CAMERA** position.
- 2 Press **D.ZOOM** to select **D.ZOOM1** or **D.ZOOM2**.
 - once : **D.ZOOM1** (from 20X to 40X)
 - twice : **D.ZOOM2** (from 20X to 300X)
 - three times : Turn off **D.ZOOM**
- 3 Press **REC/PAUSE** to start recording and press **POWER ZOOM** to zoom in or zoom out.
 - The magnification level is always displayed in the EVF or the LCD monitor when **DISPLAY** is set to **ON**. (See pages 16, 18.)
- 4 Press **D.ZOOM** to turn off Digital Zoom so that no indication appears.

Note

- The normal optical zoom functions from 1X to 20X.
- Because the image is enlarged digitally, the picture may become distorted when higher magnification levels are used.
- When the level falls below 20X, the normal zooming function will resume.
- Focus distance becomes 4 feet (1.2 m) if the lens is in full telephoto.

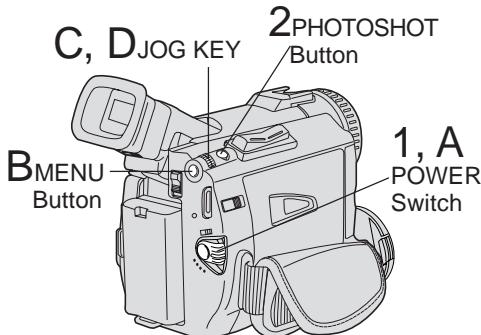
VCR mode

- A Set POWER to **VCR**.
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to **VCR** position.
- B Press **PLAY** to start playback.
- C Press **D.ZOOM**.
 - The center portion of the image doubles in size.
- D Press **D.ZOOM** again for normal image size.

Digital PhotoShot

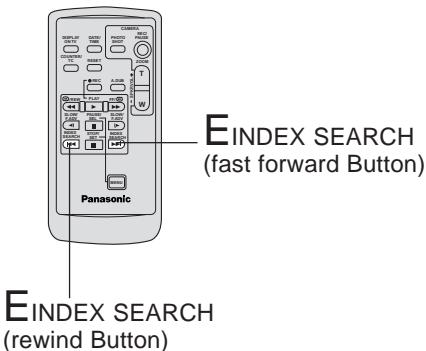
Use this feature to record a seven second (approx.) still image from the current camera picture. Audio is also recorded for on-the-spot narration. Or, you can add narration later with the Audio Dubbing feature to make an interesting slide show, etc.

(See page 49.)



Index Search (Photo/Scene)

(Remote Control Only)



Note

- The picture quality will deteriorate slightly.
- The tape remaining indicator will not appear while the PHOTOSHOT feature is used.
- In the Photo/Scene Index Search mode, the shutter sound effect may not be able to be heard even when SHUTTER is set to ON.
- Photo Index Search may fail to detect a recorded PhotoShot image if the image is 3 seconds or less.

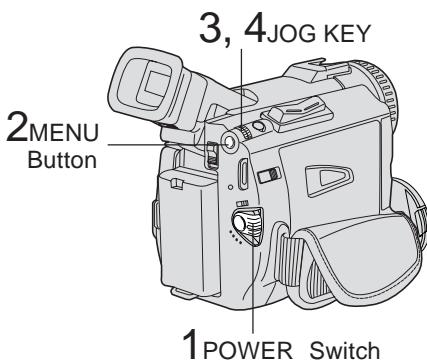
- 1 Set POWER to CAMERA.
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to CAMERA position.
- 2 Press PHOTOSHOT in Record/Pause mode. "PHOTO" will appear in the EVF or the LCD monitor.
- If SHUTTER on the menu screen is set to ON, a sound effect similar to the shutter of a film camera will be heard when PHOTOSHOT is pressed.
- When PHOTOSHOT is pressed, the playback image takes approx. 7 seconds to process. After that, the Camera mode screen will be displayed.

- A Set POWER to VCR.
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to VCR position.
- B Press MENU to display the VCR mode menu screen.
- C Rotate JOG KEY to select **PLAY MODE**, and press JOG KEY to display the VCR PLAY MODE menu screen.
- D Rotate JOG KEY to select **INDEX**, and press JOG KEY to select PHOTO or SCENE.
 - Press MENU twice to exit.
- E Press INDEX SEARCH fast forward or rewind on the remote control to advance or rewind the tape to playback a PhotoShot scene. To view the next PhotoShot, INDEX SEARCH must be pressed again.

Special Features

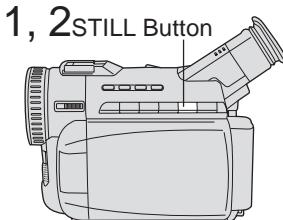
White Balance

Auto White Balance automatically maintains optimum color balance in most lighting conditions. However, when using Digital Functions, etc., you may get better results using the manual adjustment.



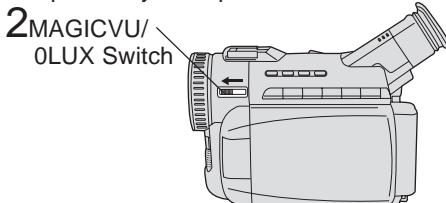
Recording Still Pictures

You can record still pictures of any desired duration together with sound.



MAGICVU/0LUX

MAGICVU allows you to record subjects in comparatively dark places.



- 1 Set POWER to CAMERA.
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to CAMERA position.
- 2 Press MENU to display the menu screen.
- 3 Rotate JOG KEY to select **ADJUST**, and then press JOG KEY to display the CAMERA ADJUST menu screen.
- 4 Rotate JOG KEY to select **W.BALANCE**, and then press JOG KEY repeatedly to select AUTO, Indoor halogen lamp “ $\text{--}\text{--}$ ”, or Outdoors “ $\text{--}\text{--}$ ”.

$\text{--}\text{--}$: When the source illumination is a halogen lamp.
 $\text{--}\text{--}$: When shooting outdoors on a sunny day.

AUTO : Automatically maintains optimum color balance in most lighting conditions.

- 1 While in RECORD mode, press **STILL** and hold for 2 seconds to capture a still picture. The captured still picture will be recorded together with sound.
- 2 Press **STILL** once again to release the still picture. The camera will resume recording real-time pictures.

- 1 Set POWER to CAMERA.
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to CAMERA position.

- 2 Slide **MAGICVU/0LUX** to ON.
 - A black and white image appears.
 - You can select the color of image: B/W, green, or blue. (See page 16.)
 - To cancel this feature, slide MAGICVU/0LUX to OFF.

Note

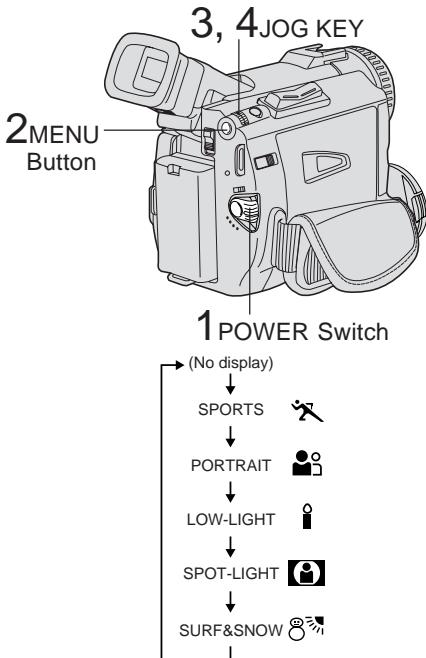
- The subject can be up to 3 m (9 feet) away.

Program AE

The Auto Exposure feature can be used to make quality recordings in a variety of scene situations.

Note

- When MAGICVU is ON, Program AE and H.S.S. cannot be set in the menu.



Note

SPORTS mode

- The recorded images will not be so blurred when they are viewed later using slow or still picture playback.
- When playing back a sports mode recording, the movement may appear slightly jerky.
- Do not use this mode when recording under fluorescent, mercury, or sodium lighting. These types of lights will affect the color and brightness of the images.
- A vertical band of light might appear when recording objects that are brightly illuminated or which are highly reflective.
- If the amount of light is insufficient, the SPORTS "X" indicator will flash in the EVF or the LCD monitor.
- The image may flicker if this mode is used indoors.

- Set **POWER** to **CAMERA**.
 - The **POWER** lamp lights red.
 - Be sure **POWER** is fully turned to **CAMERA** position.
- Press **MENU** to display the menu screen.
- Rotate **JOG KEY** to select **ADJUST**, and then press **JOG KEY** to display the **CAMERA ADJUST** menu screen.
- Rotate **JOG KEY** to select **PROG.AE**, then press **JOG KEY** repeatedly to select one of the five modes shown below.
- Repeat steps 2~4 to select OFF to cancel this feature.

Mode	Indication
	For recording fast action scenes.
	For recording only subjects in the foreground, while ignoring subjects in the background.
	For recording in extreme low light conditions.
	Recording in situations where subjects are under a spotlight(s).
	For recording in locations with a high degree of "Dazzle," such as snow slopes and the seashore.

PORTRAIT mode

- The image may flicker if this mode is used indoors.

LOW-LIGHT mode

- Scenes recorded in extremely low light levels may not come out properly.

SPOT-LIGHT mode

- If the recorded subject is extremely bright, the picture may appear whitish.

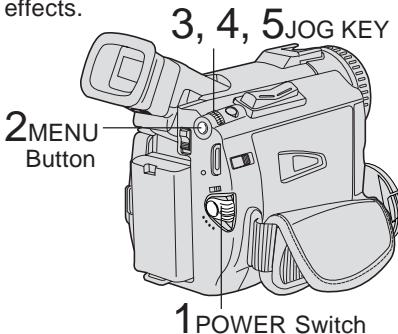
SURF&SNOW mode

- If the recorded subject is extremely bright, the picture may appear whitish.
- It is not possible to select the SPORTS mode or PORTRAIT mode together with the GAIN UP in the Digital function camera menu.

Special Features

Other Digital Functions

Use the following features to add interest and professionalism to your recordings or playback. Select from twelve special effects.



Types of Digital Functions

MIRROR

Symmetrical image from the current camera picture.

STROBE

The recording appears as a sequence of still frames.

MOSAIC

The picture appears in a mosaic pattern.

SLIM

The picture is expanded vertically.

TRAIL

The subject being recorded creates a trail when in motion.

STRETCH

The picture is expanded horizontally.

GAIN UP (Not available during playback)

Picture sensitivity is increased.

- Only Manual Focus is available.

WIPE

Successive scenes are separated in a way which simulates the drawing of a curtain.

MIX

The current scene is mixed in with the following scene during scene changes.

PinP

PinP (Still image) is displayed on the Main Picture.

SEPIA (Only available during playback)

The picture is played back in sepia, a brownish color, giving it an antique look.

MONO (Monotone) (Only available during playback)

The picture is played back in black-and-white.

1 Set POWER to CAMERA or VCR.

- The POWER lamp lights red.
- Be sure POWER is fully turned to CAMERA or VCR position.

2 Press MENU to display the menu screen.

3 Rotate JOG KEY to select

D.FUNCTION in the CAMERA mode menu screen or **PLAY FUNCTION** in the VCR mode menu screen, then press JOG KEY to display the CAMERA FUNCTION or VCR PLAY FUNCTION menu screen.

4 Rotate JOG KEY to select **D.FUNCTION**, and then press JOG KEY repeatedly to select one of the Digital Functions listed on the left.

5 To cancel the Digital Function, press JOG KEY repeatedly to select OFF.

Note

- The EIS and Digital Zoom features are turned off automatically when one of the Digital Functions listed at left is selected.

To use the WIPE function

- In Camera mode, set the "D.FUNCTION" item in the main menu screen to "WIPE". (See page 15.)
- Press REC/PAUSE to start recording.
- Press REC/PAUSE to pause the recording. The last scene will be memorized.
- Press RECORD/PAUSE to start recording again. The new scene will take the place of the memorized scene.

To use the MIX function

- In Camera mode, set the "D.FUNCTION" item in the main menu screen to "MIX" (see page 15). Then, perform steps b-d above.

The memorized scene and the new scene will appear mixed as the scene changes from one to the other.

Note

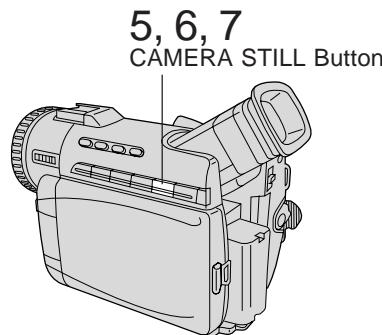
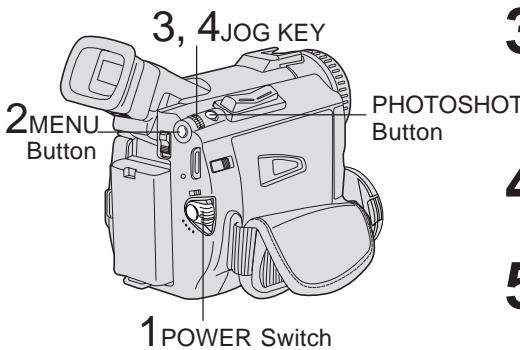
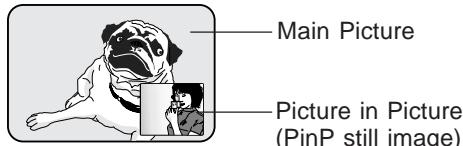
- When Photo Title is set, WIPE/MIX mode becomes Photo Title. When Photo Title is finished, Digital Function turns OFF.

Picture in Picture (PinP)

You can display a PinP (still image) screen on the Main Picture.

Note

- PinP position is fixed at the bottom right of the screen.



Before you begin

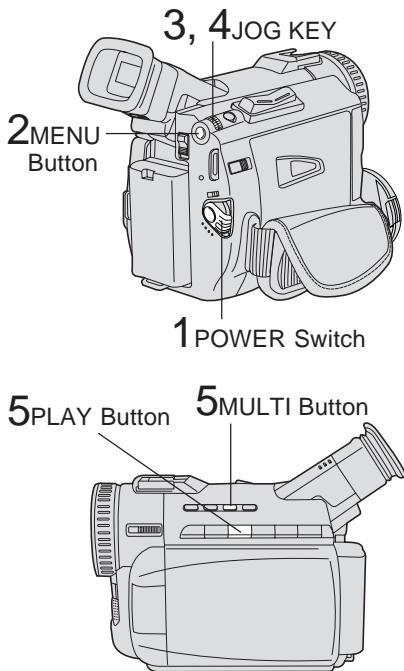
- Connect the Palmcorder to a power source. (See pages 11, 12.)

- 1 Set POWER to CAMERA.
 - The POWER lamp lights red.
 - Be sure POWER is fully turned to CAMERA position.
- 2 Press MENU to display the menu screen.
- 3 Rotate JOG KEY repeatedly to select D.FUNCTION, then press JOG KEY to display the CAMERA FUNCTION menu screen.
- 4 Press JOG KEY to select PinP.
 - Press MENU twice to exit this menu.
- 5 Aim at the scene you wish to place as PinP, then press CAMERA STILL to freeze the image.
- 6 Press CAMERA STILL again to place the frozen image as PinP.
- 7 Press REC/PAUSE to record a scene with PinP image.
 - Press PHOTOSHOT to record a scene with PinP image in PhotoShot mode.
 - Press CAMERA STILL again to remove PinP image.

Special Features

Strobe Multi Mode

In Strobe Multi Mode, you can select the rate at which a succession of still screens are captured from the playback picture.



Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)

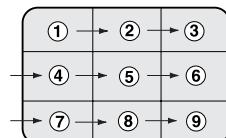
- 1 Set **POWER** to **VCR**.
 - The **POWER** lamp lights red.
 - Be sure **POWER** is fully turned to **VCR** position.
- 2 Press **MENU** to display the menu screen.
- 3 Rotate and press **JOG KEY** to select and set **MULTI SETTING**.
- 4 Press **JOG KEY** to select **SPEED**, then press repeatedly to set desired speed.

Strobe Speeds

Strobe Speeds	9 screen capture time
FAST	Every 0.3 seconds
NORM	Every 0.6 seconds
SLOW	Every 1.0 seconds

- Press **MENU** twice to exit.

- 5 Press **PLAY** to start playback. Press **MULTI** at the point you want to start capturing.
 - A succession of 9 screens will be captured, and playback will stop.



- Press **MULTI** to return to the normal **STILL** screen.
Press **PLAY** to start playback.
Press **STOP** to stop playback.

Note

- A Multi Image Playback screen cannot be output from the DV terminal or Digital Still Image terminal.
- A Multi screen will have slightly lower image quality.

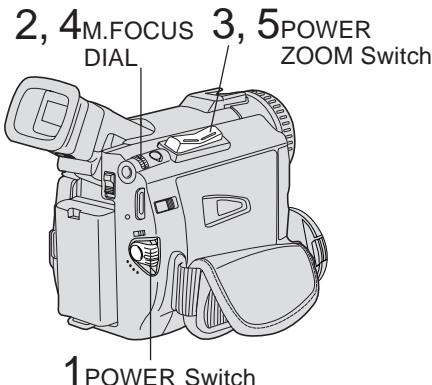
Auto Focus

The Palmcorder automatically adjusts the focus over the entire zoom range.

Manual Focus

Use Manual Focus (MF) when recording ...

- a subject through glass.
 - a scene where the subject is far from the Palmcorder and there are objects in the foreground.
 - a subject with distinct horizontal stripes.
 - a subject not centered in the Viewfinder.
 - subjects with shiny surfaces.
 - an obliquely angled subject.
 - a bright, flat subject such as a white wall.
 - in low light situations.
 - a scene with fast motions, like a golf swing.
- Re-focusing may be required**
- when your Palmcorder is aimed at a new scene.



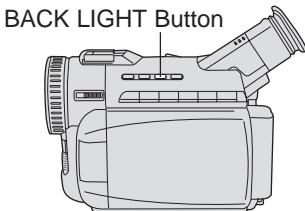
Macro Focus (for close-ups)

Press the "W" side of POWER ZOOM to the maximum wide angle position.

Auto Focus will function with the subject as close as 1 inch (25 mm) in front of the lens.

Backlight

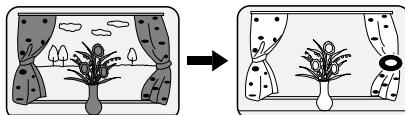
Use when recording a subject that is darker than the surrounding scene, in a shadowed area, or when the light source is in back of your subject.



Press BACK LIGHT in Record mode to activate the Backlight feature.

The Indicator “

Press BACK LIGHT again to cancel the Backlight feature.



EVF or LCD monitor indication.

Note

- The Indicator “

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Special Features

High Speed Shutter

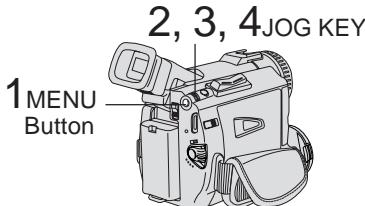
To record high speed motion (e.g. tennis stroke) for improved STILL or SLOW MOTION playback when watching the tape on this Palmcorder.

Auto Shutter

In the AUTO mode (no indication in the EVF and LCD monitor), the Palmcorder will automatically adjust the shutter speed (up to 1/350).

- AUTO mode is automatically selected whenever the POWER Switch is set to CAMERA.

Manual Selection

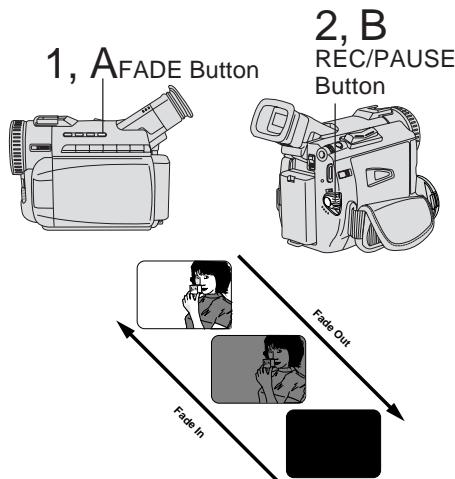


Note

- For proper color reproduction, it is recommended that you use this feature outdoors. For indoor High Speed Shutter recording, additional halogen or tungsten light should be provided. Fluorescent light will degrade the picture quality.
- This feature requires ample light. More light is required for the fastest shutter speeds.
- The Auto Focus system may not operate properly in insufficient light when using the High Speed Shutter.
- When PROG.AE is ON, you cannot manually select the shutter speed.
- When MAGICV/U is ON, Program AE and H.S.S. cannot be set in the menu.

Audio/Video Fade In/Out

You can make smoother scene transitions for a more professional look.

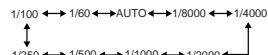


Before you begin

- Connect the Palmcorder to a power source. (See pages 11, 12.)
- Set POWER Switch to CAMERA.
- Insert a cassette with record tab. (See page 6.)

- 1 Press MENU to display the Camera mode menu in the EVF or the LCD monitor.
- 2 Rotate and press JOG KEY to select **ADJUST**, then rotate and press JOG KEY to select **H.S.S.**.
- 3 Press JOG KEY to select **SET**.
 - SHUTTER SPEED menu is displayed.



- 4 Rotate JOG KEY to choose one of the following shutter speeds.
 - Press MENU three times to exit.

Fade In

Starting the first scene with "fade in" is very effective.

- 1 In REC/PAUSE mode, hold down FADE until the picture fades out.
- 2 Press REC/PAUSE to start recording.
- 3 Release FADE and the picture will gradually fade in.

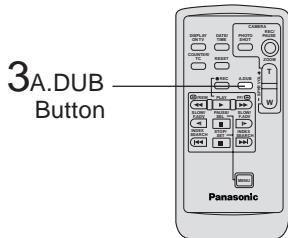
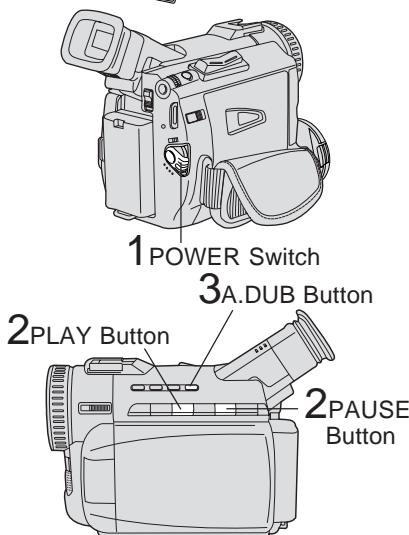
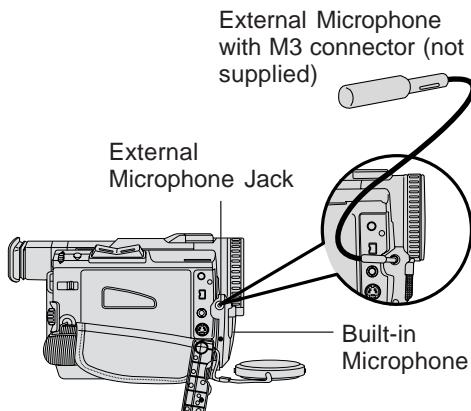
Fade Out

Use to create a soft ending or (together with fade in) for a soft transition from one scene to the next.

- During recording, hold down FADE until the picture fades out.
- Press REC/PAUSE to pause the recording.

Audio Dubbing using the External or Built-in Microphone

The original sound can be replaced with new sound using the built-in Palmcorder microphone or an external microphone.



Before you begin

- Connect the external Microphone (if used).
- Turn on the Palmcorder.
- Insert a pre-recorded tape to be dubbed.

The AUDIO-REC setting in CAMERA MENU mode should be as follows:

12 bit	The original sound is recorded on ST (Stereo) 1, and the new sound will be recorded on ST (Stereo) 2.
16 bit	The original sound is replaced with the new sound.

- Select 12 bit if you do not want the original sound to be completely replaced during an audio dub.
- If you dub over a tape which has both 12 bit and 16 bit audio recordings on it, keep in mind that the original 16 bit audio portion will be completely replaced.

1 Set POWER to VCR.
• The POWER lamp lights red.
• Be sure POWER is fully turned to VCR position.
• With the Remote Control, you can set the Palmcorder to stop automatically at a specified point on the tape. See "Memory-Stop Editing" on page 50.

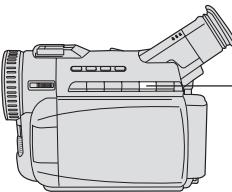
2 Press PLAY.
Then press PAUSE where you want dubbing to begin.

3 Press A.DUB on this unit (for 3 seconds) or on the remote control to put the Palmcorder in the Audio Dub mode.
• "A.DUB" flashes in the EVF or the LCD monitor.



A.DUB

Special Features



4, 5 PAUSE
Button

To listen to the desired audio sound, set the AUDIO setting of the VCR mode MENU (see page 17) as follows:

AUDIO: The following selections are available for 12 bit AUDIO dubbed recordings only (sound recorded in SP mode only).

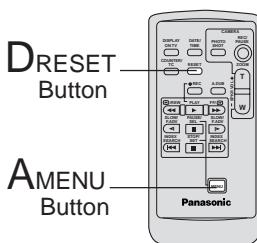
ST 1	Set this position to listen to the original sound.
ST 2	Set this position to listen to the audio dubbed sound.
MIX	Set this position to listen to both the original sound and the audio dubbed sound.

Note

- 16 bit dubbed sound completely erases the original 16 bit recorded sound.
- If you dubbed using 12 bit AUDIO recording and then selected AUDIO-MIX in the menu for playback, the sound will be stereo regardless of the AUDIO-OUT setting.
- If you recorded in LP mode, you cannot use the A.DUB feature.

Memory-Stop Editing (Remote Control Only)

You can set an automatic Dubbing stop point.



- 4** Press PAUSE to start Audio Dubbing.
• Connect the Palmcorder to the TV in order to monitor the sound.
(See page 31.)

INCOMPATIBLE TAPE

Only NTSC (National Television Standards Committee) recorded tapes can be audio dubbed. The following screen appears if the tape was not recorded in NTSC format.

- 5** Press PAUSE to stop Audio Dubbing.
• If the microphone used for dubbing gets too near the speaker of your TV, a howling noise (feedback) may occur.
• If the tape position is in or was started in a blank section, you cannot use the A.DUB feature.

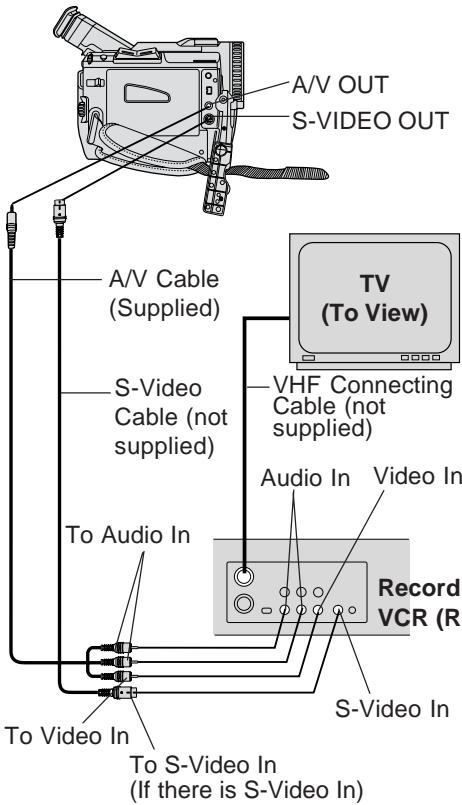
- A** Press MENU to display the VCR menu screen.
- B** Rotate JOG KEY to select DISPLAY SETTING, and then press JOG KEY to display the DISPLAY SETTING menu.
- C** Rotate JOG KEY to select DISPLAY, and then press JOG KEY to set to MEMORY.
- D** Press MENU two times to exit MENU mode. Then, press RESET on the remote control to reset the Counter Memory to M 0:00:00.

Now, rewind to the editing start point, and continue with steps 2-5. The tape will now stop automatically at "M 0:00:00".

Special Features

Copying your Tapes to S-VHS or VHS Cassette

Source (Playing) Palmcorder



Monitor with your TV

- Turn the TV ON and select its VCR channel (either CH3 or CH4).
- Set the VCR/TV Selector on the recording VCR to VCR.

Before you begin

- Connect both Palmcorder and VCR to their power sources.
- Connect the Palmcorder to a VCR as illustrated left.
- Turn ON both units.
- **Set the recording VCR's Input Signal Selector to LINE.**
- Set the Palmcorder POWER Switch to VCR.

- 1 Insert a pre-recorded tape** into the source (playing) Palmcorder and a blank tape, with record tab in place, into the target VCR (Recorder).
- 2 Press PLAY** on the Palmcorder. When the tape reaches the point you want to start dubbing, **press PAUSE**.
- 3 Place the VCR into REC/PAUSE mode.** (See VCR manual.)
- 4 Simultaneously, press PAUSE** on both units to begin copying.
- 5 Press STOP** on both units when copying is completed.

Note

- For technical reasons, dubbing a tape may reduce its quality.
- Press DISPLAY ON TV on the Palmcorder remote control to eliminate EVF/LCD Monitor indications.
- If the Time Code is displayed in the EVF or LCD monitor, it cannot be reset.
- Only the DATE/TIME, when displayed, will be recorded on the tape.

CAUTION:

Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

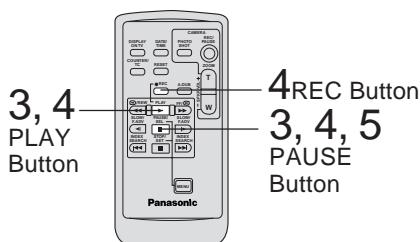
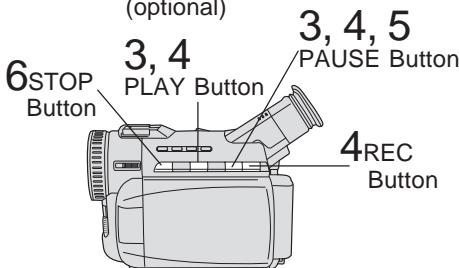
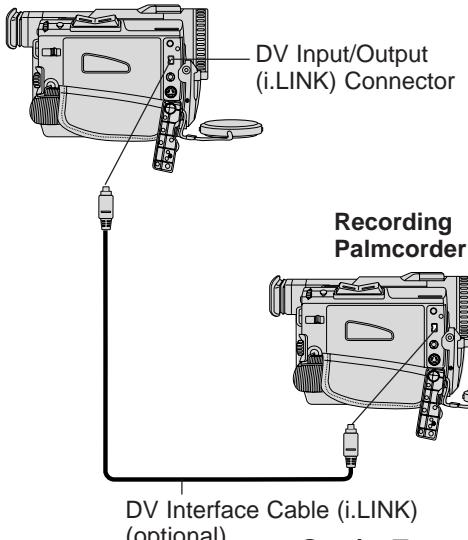
Special Features

Special Features

Copying from Digital Equipment (dubbing)

High quality digital-to-digital copying can be accomplished if both Palmcorders incorporate the DV Input/Output (i.LINK) Connector (DV interface cable (i.LINK) is not supplied).

Source (Playing) Palmcorder



Before you begin

- Connect both Palmcorders to their power sources.
- Connect the two Palmcorders using the DV interface cable (i.LINK) (4-pin to 4-pin).
- Turn both Palmcorders ON.

- 1 Insert a pre-recorded tape into the source (playing) Palmcorder, and set POWER to VCR.
- 2 Insert a blank tape with the record tab closed into the target (recording) Palmcorder and set POWER to VCR.
- 3 Press PLAY on the source Palmcorder. When the tape reaches the point you want to start dubbing, press PAUSE.
- 4 Hold down REC and press PLAY on the target (recording) Palmcorder or on the remote control (optional, page 64). Press PAUSE to pause the tape at the starting point of the dub.
- 5 Simultaneously, press PAUSE on both units to begin dubbing.
- 6 Press STOP on the recording unit, and then press STOP on the playing unit to end dubbing.

Note

- When two Palmcorders are used for dubbing, it is recommended that the remote control VCR1 or VCR2 setting be used to avoid improper-operation.
- When two Palmcorders are connected using the DV interface cable (i.LINK) (not supplied), a Video Editing Controller cannot be used.
- Do not connect both an S-Video Cable or A/V Cable and a DV Interface Cable (i.LINK).

CAUTION:

Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

Transferring Your Images

You can transfer images from your Palmcorder tape to your PC (Personal Computer).

System Requirements:

- IBM PC/AT or compatible
- Intel Pentium II Processor: 266 MHz or more
- Windows 98/Me preinstalled PC with USB port
- RAM: 64 MB or more
- High color (16 bit) or more
- Resolution 800 x 600 (SVGA) or more
- 220 MB minimum available hard disk space (for ArcSoft Software)

- 15 MB minimum available hard disk space (for CARDLINK (for USB) or PHOTOVU LINK/Movie Messenger)
- 120 MB minimum available hard disk space (for USB Motion image capture)
- CD-ROM drive (for installation)
- Mouse or other pointing device

Palmcorder USB Device Driver

: Software to connect your Palmcorder and your PC using USB Cable.

PHOTOVU LINK/Movie Messenger

: Software to transfer images from your Palmcorder to your PC.

CARD LINK (for USB)

: This software to transfer images between the Memory Card and your PC.

ArcSoft Software*

: Following software is included: PhotoPrinter 2000 Pro, PhotoImpression 2000, Panorama Maker 2000.

* For information on ArcSoft Software:

TEL	: 1-510-440-9901
FAX	: 1-510-440-1270
Web Site	: www.arcsoft.com
E-mail	: support@arcsoft.com

Note

- The Windows 2000 driver is currently not available, but will be available in the future on our website at www.panasonic.com/video.

Software Installation (Windows 98/Me)

Caution

- Please install Palmcorder USB Device Driver first before connecting the Palmcorder and your PC using USB Cable. Once Palmcorder USB Device Driver is installed, you must restart your computer for installation to take effect.

1 Turn on the PC (Personal Computer) and start up Windows 98/Me.

2 Insert the supplied Software CD-ROM into the CD-ROM drive.

3 Select and click the icon you want to install.



Palmcorder USB Device Driver : Click



PHOTOVU LINK/Movie Messenger : Click



CARD LINK (for USB) : Click



ArcSoft Software : Click



4 Follow the instructions as they appear on your PC screen.

Note

- If a window does not appear automatically, click the "Start" button on your desktop and then click "Run". When the Run box is open, type in "D:\InstMenu.exe" where "D:" is the drive letter of your CD; then click "OK".
- If you attempt to install the next Software before the previous Software installation is completed, "Error" may appear. In this case, click [OK] and install the next Software from the menu.

Special Features

Transferring Your Images

Notes on PHOTOVU LINK/Movie Messenger and CARD LINK operation

- For PHOTOVU LINK/Movie Messenger, do not connect the i.LINK and USB terminals to the Palmcorder at the same time.
- Make sure Palmcorder power is not shut off during use, your PC system may become unstable, therefore it is recommended that the AC Adaptor be used as the power source. (Be especially careful when recording in M-CARD or CAMERA mode as the power eventually shuts off automatically if a tape is inserted.)
- For PHOTOVU LINK/Movie Messenger, if the play, stop, fast forward, and rewind functions are operated using the Palmcorder buttons, the image may not be captured properly. Use Palmcorder Operation Buttons displayed on the PC screen.

Uninstalling Application Software

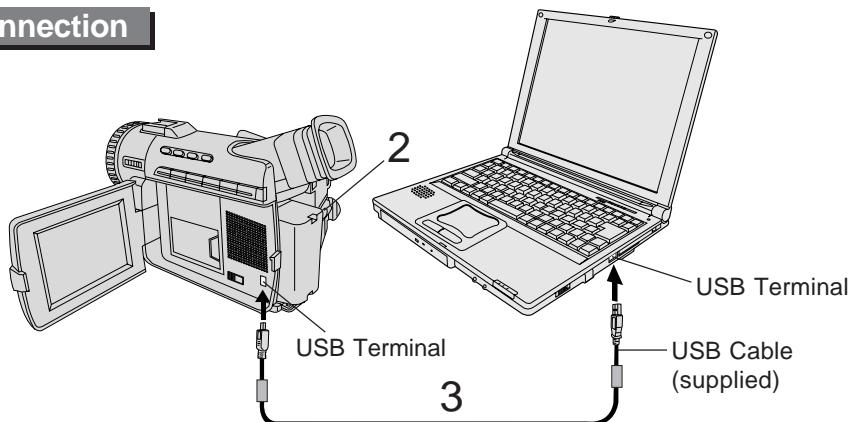
- 1 Click "Start," "Settings," and "Control Panel."
- 2 Double-click on "Add/Remove Programs" in the "Control Panel."
- 3 Select the application software you want to remove, and then click [Add/Remove].

Note

- Before uninstalling CARD LINK (for USB), right-click on the CARD LINK (for USB) Monitor, then left-click on "Exit" to close CARD LINK (for USB) Monitor.
- If the "Locked File Detected" dialog box appears while uninstalling the CARD LINK (for USB), close CARD LINK (for USB) Monitor as described above, then click on [Retry].



Connection



- 1 Turn on your PC.
- 2 Set the Palmcorder POWER to VCR.
- 3 Connect the Palmcorder to your PC (Windows) using the USB Cable (supplied).

Note

- For extended use, it is recommended to use the AC Adaptor as a power source.

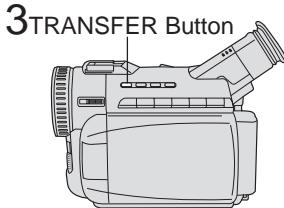
Transferring Your Images

One Touch Transfer

The images stored on the Memory Card can easily be transferred to the PC by pressing the TRANSFER Button.

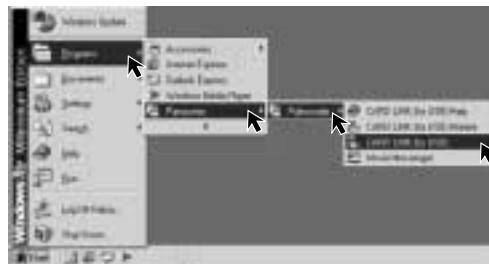
Note

- Before using this feature, make sure the CARD LINK (for USB) monitor icon is displayed.
- Double clicking the CARD LINK Monitor icon displays a dialog box in which the save location for the collective transfer can be changed.



Running the CARD LINK (for USB)

You can transfer images between the Memory Card and your PC.



Before you begin

- Set POWER to OFF before inserting a recorded Memory Card.
(See pages 32, 33.)
- Turn your PC on.

- 1 Set Palmcorder POWER to CAMERA or slide M-CARD Lock Switch to unlock and set to M-CARD.
(See pages 9, 10.)
- 2 Connect the Palmcorder to your PC (Windows) using the USB Cable (supplied). (See page 54.)
 - "CONNECT WITH PC" is displayed on the LCD monitor.
- 3 Click on "Start," "Programs," "Panasonic," "Palmcorder," then "CARD LINK (for USB)."
 - "CARD LINK (for USB)" is opened.
- 4 Press TRANSFER.

- CARD LINK (for USB) application is run automatically and images stored on the memory card are transferred to your PC and saved. (If an image to be transferred already exists, that image will be skipped over and not transferred.)

Note

- JPEG image format (only image data that can be played back on Palmcorder) can be transferred from the PC to the Palmcorder.

- 1 Repeat steps 1 and 2 above.
- 2 Click on "Start," "Programs," "Panasonic," "Palmcorder," then "CARD LINK (for USB)."
 - "CARD LINK (for USB)" is opened.

Note

Refer to Help for information about application operations and Error messages.

While CARD LINK is running, do not perform the following operations...

The PC system may become unstable.

- Change the screen area or color pallet in the Display Properties window.
- Turn the Palmcorder power switch ON or OFF while connecting the Palmcorder to your PC using the USB Cable.
- Connect/disconnect the USB Cable.
- Insert/remove a Memory Card.

Special Features

Transferring Your Images

Using Memory Card Image Data (CARD LINK (for USB))

Pictures captured with Palmcorder can be transferred to your PC.



Note

- If, while transferring the image to your PC, the displayed picture appears abnormal, restart the PC application and turn Palmcorder POWER off, and then back on.

Using PC Image Data (CARD LINK (for USB))

You can use JPEG or Bitmap files from your computer for Photo Title (see page 38) by transferring them to the Palmcorder via PC connection.



Before you begin

- Set POWER to OFF before inserting a recorded Memory Card. (See pages 32, 33.)
- Make Palmcorder-PC connections. (See page 54.)
- Turn your PC on. (See page 54.)
- Set Palmcorder POWER to M-CARD. (See page 10.)
- Repeat steps 1 and 2 to run the CARD LINK (for USB). (See "Running the CARD LINK (for USB)" on page 55.)

- 1 Select the image data you want to transfer to your PC.**
- The selected image will be underlined in green.

**2 Click on:
Transfer**

- The picture image is transferred to your PC and displayed. Transfer Dialog will appear on the PC. The image is captured when the full screen image appears on the PC.

Delete

- Confirmation Dialog will appear on the PC. Click "OK". The selected images of the Memory Card are deleted.

Save

- The picture image is transferred to your PC and displayed. [Save as] dialog box will appear.

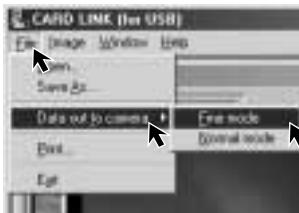
3 Click on the selected image.

1 Click on "File," then Click on "Open."

- At your PC, please select and open the data (.jpg or .bmp) you want to transfer to the Palmcorder.

2 Click on "File," select "Data out to camera," then select Fine or Normal mode.

- Your computer image data is transferred to the Palmcorder.



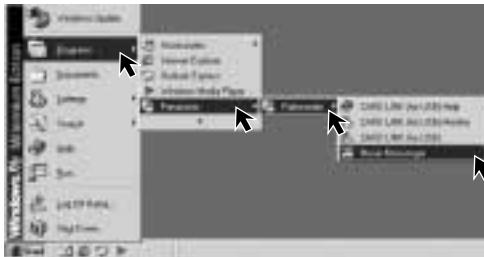
Transferring Your Images

Running the PHOTOVU LINK/Movie Messenger

You can transfer Motion images and Still images from your Palmcorder tape to a PC.

Before you begin

- Insert a recorded tape. (See page 9.)



How to insert the USB Cable or DV Interface Cable (i.LINK)

- A** Set Palmcorder POWER to VCR.
- B** Connect the Palmcorder to your PC using the USB Cable (supplied) or DV interface Cable (i.LINK).
- C** Start up the PHOTOVU LINK/Movie Messenger.

How to remove the USB Cable or DV Interface Cable (i.LINK)

- A** Close the PHOTOVU LINK/Movie Messenger.
- B** Remove the USB Cable or DV Interface Cable (i.LINK) from the Palmcorder.
- C** Set Palmcorder POWER to OFF.

While PHOTOVU LINK/Movie Messenger is running, do not perform the following operations...

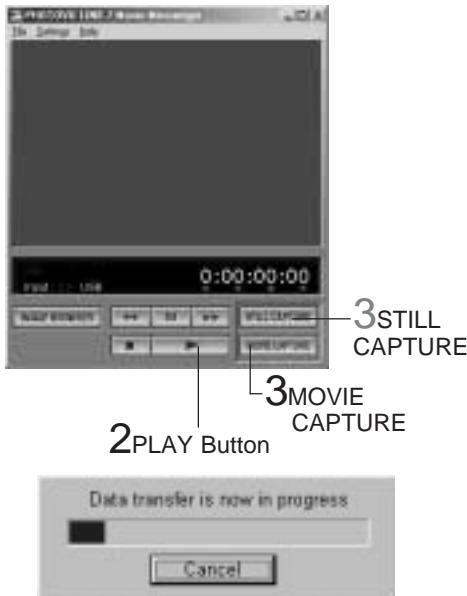
The PC system may become unstable.

- Change the screen area or color pallet in the Display Properties window.
- Turn the Palmcorder power switch ON or OFF while connecting the Palmcorder to your PC using the USB Cable or DV Interface Cable (i.LINK).
- Change the Palmcorder mode (VCR/CAMERA).
 *Close the application before changing the Palmcorder power switch.
- Connect/disconnect the DV Interface Cable (i.LINK).
- Connect/disconnect the USB Cable.

Transferring Your Images

Using Tape Image Data (PHOTOVU LINK/Movie Messenger)(USB)

By connecting the Palmcorder and PC with the USB Cable, you can transfer Motion images and Still images saved on the DV Tape directly to your PC.



To capture Still images

- 3** Click on [STILL CAPTURE] at the point you wish to capture an image.
- Repeat step 3 to continue capturing images.
 - Captured Still images are saved to the PC, and you can playback the saved images on the Image Browser. (See page 59.)

Before you begin

- Insert a recorded tape. (See page 9.)
- Make Palmcorder-PC connections. (See page 54.)
- Turn your PC on. (See page 54.)
- Set Palmcorder POWER to VCR.

- 1** Repeat steps 1~4 on page 57 to run the PHOTOVU LINK/Movie Messenger.

Note

- When the USB Cable is connected, the input display will automatically become USB. If it is not USB, please confirm the connection. Then, close and restart the software.

- 2** Click ► (PLAY) on PC screen to playback the DV tape.

- The playback screen cannot be viewed on the PC. Please use the LCD monitor on the Palmcorder for confirmation.

To capture Motion images

- 3** Click on [MOVIE CAPTURE] at the start point you wish to capture a Motion image.

- 4** Click [MOVIE CAPTURE] or [STOP] to end capture.

- "Now Searching" is displayed.
- The DV Tape is rewound to the point at which the capture was started. The Motion image is then transferred to the PC.
- "Data transfer is now in progress" is displayed on the PC screen.
- The maximum capture time is approx. 30 seconds. Capture stops automatically at the end of 30 seconds.

Note

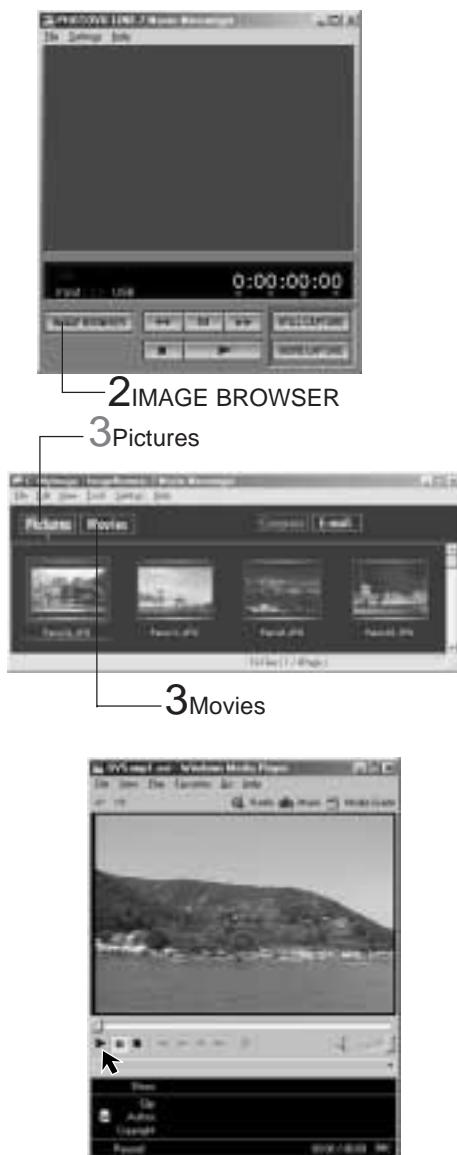
- Motion images cannot be captured if data contains the following...
 - A change between 12 bit and 16 bit.
 - A change between SP and LP mode.
- During transfer to the PC, the Motion images will not be displayed on the PC screen.
- Transfer takes from about 30 to 50 seconds for every 1 second of the Motion image.

- 5** To capture other Motion images, repeat steps 3~4.

Transferring Your Images

Playing back the saved Motion and Still images (PHOTOVU LINK/Movie Messenger)

You can playback the saved Motion images and Still images (see page 58) for confirmation.



1 Repeat steps 1~4 on page 57 to run the PHOTOVU LINK/Movie Messenger.

2 Click [IMAGE BROWSER] to display the Image Browser screen.

To view Motion images

3 Click on [Movies].

- The first part of each Motion image will be displayed as a list.

4 Double click on the desired Motion image to display the playback screen.

- Click ► to start Motion image playback.

To view Still images

3 Click on [Pictures] to display the Still image list.

4 Double Click on the desired image to open it.

Note

- If the image cannot be opened, please refer to the software Help menu.

Transferring Your Images

To select the e-mail Software (PHOTOVU LINK/Movie Messenger)

You can transfer and compress your Motion images and Still images as attachments to your e-mail easily.

Note

The e-mail Software must support MAPI (Messaging Application Programming Interface).

Below are some e-mail Software which support MAPI:

Microsoft Outlook, Microsoft Outlook Express, Netscape Messenger:

- Outlook(R) Express 5x, Outlook97, Outlook98, Outlook2000
- Outlook Express 4x
- Other MAPI applications [Netscape(R) Messenger 4.5x and so on]



2 IMAGE BROWSER



Before you begin

- Insert a recorded tape. (See page 9.)
- Make Palmcorder-PC connections. (See page 54.)
- Turn your PC on. (See page 54.)
- Set Palmcorder POWER to VCR.

1 Repeat steps 1~4 on page 57 to run the PHOTOVU LINK/Movie Messenger. (See Note below.)

2 Click [IMAGE BROWSER] to display the Image Browser screen.

3 Select "E-mail Settings" from "Settings".

4 Select the e-mail software you are using, then click [OK].

Note

- If the e-mail software does not support MAPI, clicking on [E-mail] of Movie Messenger will not automatically run the e-mail software. Please run the e-mail software before doing step 1 above.

Transferring Your Images

Attaching captured Motion and Still images to your e-mail



Attaching Still images to e-mail

- 3 Click on [Pictures] to display the Still image list.
- 4 Select the image to be attached, then click on [E-mail].
 - The e-mail software will be run automatically and the selected image will be attached to the e-mail. (See Note right.)

Before you begin

- Insert a recorded tape. (See page 9.)
- Make Palmcorder-PC connections. (See page 54.)
- Turn your PC on. (See page 54.)
- Set Palmcorder POWER to VCR.

1 Repeat steps 1~4 on page 57 to run the PHOTOVU LINK/Movie Messenger.

2 Click [IMAGE BROWSER] to display the Image Browser screen.

Attaching Motion images to e-mail

3 Click on [Movies] to display a Motion image list.

4 Select the Motion image to be attached, then click on [Compress].

- Follow the menu to perform the compression settings.

5 Clicking on [Compress] will compress the selected image.

- "Successfully Done" is displayed on the PC screen.
- Click [Play] to open the Movie Messenger Player screen. You can confirm the compressed Motion image by clicking on [Play].

6 Clicking on [E-Mail] will automatically attach the compressed Motion image to your e-mail. (See Note below.)

- When the recipient opens the file you sent, this Movie Messenger Player screen appears. By clicking [Play], they can view the Motion Image.

Movie Messenger Player screen



Note

- Movie Messenger Player works with Windows 95, 98, or Me only.
- If your e-mail software is not supported by MAPI, pressing the [E-Mail] button will automatically open the folder containing the compressed file. To attach, drag and drop the file into your e-mail.

Special Features

Transferring Your Images (i.LINK)

PC Connection with DV Interface Cable (i.LINK)

A live image can be transferred directly to your PC (Personal Computer) via a DV Interface Cable (i.LINK) (not supplied) using products and software from a number of editing software companies including Digital Origin, Canopus, and Pinnacle.

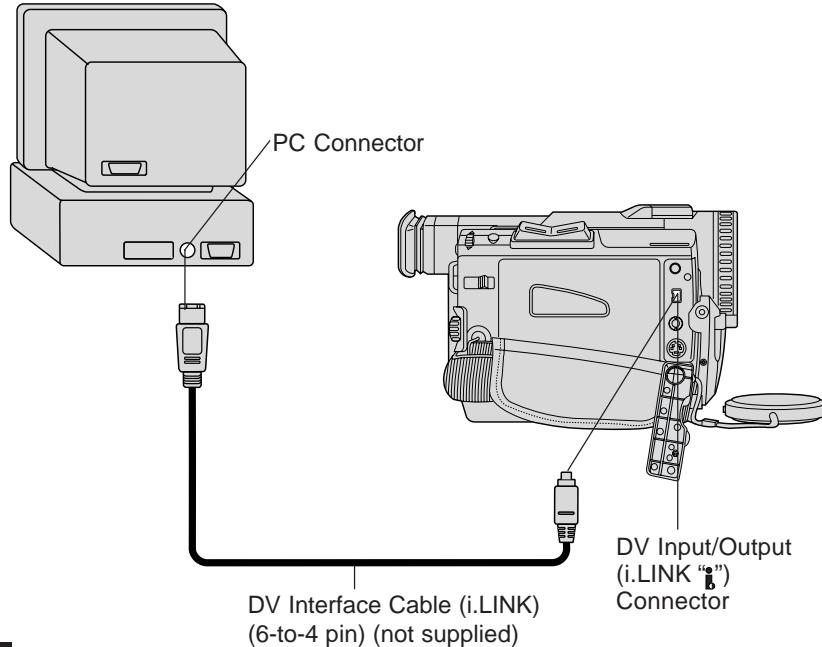
Using Products from these companies allows you to capture and edit live images onto your PC using the DV interface (i.LINK).

For more detailed information regarding editing software products from these companies, please visit their websites at:

www.digitalorigin.com

www.justedit.com

www.pinnaclesys.com



Note

- PC must be equipped with an i.LINK terminal.
- During Palmcorder playback, do not disconnect the DV Interface Cable (i.LINK) or turn the Palmcorder off as this may cause PC hang-up error to occur.
- For PHOTOVU LINK/Movie Messenger, do not use 2 i.LINK terminals on your PC at the same time.
- PHOTOVU LINK/Movie Messenger i.LINK (DV) operates normally with Windows 98SE or later operating system.
- PHOTOVU LINK/Movie Messenger i.LINK connection may not work with some DV Interface boards. In this case, use the software included with the board.
- 1394 (i.LINK) interface must conform to OHCI (Open Host Controller Interface Specification).

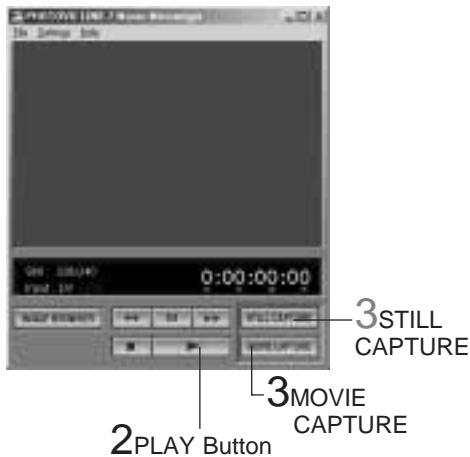
Transferring Your Images (i.LINK)

Using Tape Image Data (PHOTOVU LINK/Movie Messenger)

By connecting the Palmcorder and PC with the DV Interface Cable (i.LINK), you can transfer Motion images and still images saved on the DV Tape directly to your PC.

Note

- If PHOTOVU LINK/Movie Messenger does not work, please refer to page 62.



Before you begin

- Insert a recorded Tape. (See page 9.)
- Make Palmcorder-PC connections. (See page 62.)
- Turn your PC on.
- Set Palmcorder POWER to VCR.
- Run the Software after the DV Interface Cable (i.LINK) has been connected to the Palmcorder.

1 Repeat steps 1~4 on page 57 to run the PHOTOVU LINK/Movie Messenger.

Note

- When the DV Interface Cable (i.LINK) is connected, the input display will automatically become DV. If it is not DV, please confirm the connection. Then, close and restart the software.

2 Click ► (PLAY) button on PC screen to playback the DV tape.

- Please use the LCD monitor on the Palmcorder or PC screen for confirmation.

To capture Motion images

3 Click on [MOVIE CAPTURE] at the point you wish to capture a Motion image. Click on [STOP] to end capture.

- The image is recorded to the PC in real time.
- The maximum capture time is approx. 3 minutes.
- When capturing data containing changes between 12 bit and 16 bit and/or between SP and LP mode, a separate file will be made for each mode.
- Please refer to pages 59~61 for other functions.

To capture Still images

3 Click on [STILL CAPTURE] at the point you wish to capture an image.

- Repeat step 3 to continue capturing images.
- Captured Still images are saved to the PC, and you can playback the saved images on the Image Browser.

Special Features

Palmcorder Accessory System

Accessory #	Figure	Description
PV-DAC11		AC Adaptor with AC Cable and DC Cable
CGR-D08A/1B		800mAH / 1 h 30 min, Battery Pack
CGR-D16A		1600mAH / 3 h, Battery Pack
CGP-D28A1B		2800mAH/ 5 h, Battery Pack
CGR-D53A/1K		5300mAH / 9 h, Battery Pack
PV-DDC9		DV Interface Cable (i.LINK) (4-pin to 4-pin)
PV-DLT9		Color Enhancement Light
PV-DRC9		IR Remote Control
PV-H150		Carrying Case
PR-SD064 PR-SD032 PR-SD016		64 MB SD Memory Card 32 MB SD Memory Card 16 MB SD Memory Card
BN-SDCAPU/1B		SD USB Reader/Writer (compatible with MultiMediaCard)
BN-SDABPU/1B		SD PCMCIA Adaptor (compatible with MultiMediaCard)

Palmcorder Accessory System

Concerning the MultiMediaCard and SD Memory Card

MultiMediaCard

The MultiMediaCard is a compact, lightweight and removable external memory card. A great many fun-filled titles (preset titles) have been recorded on the supplied MultiMediaCard.

These preset titles will also be erased when the Card is formatted.

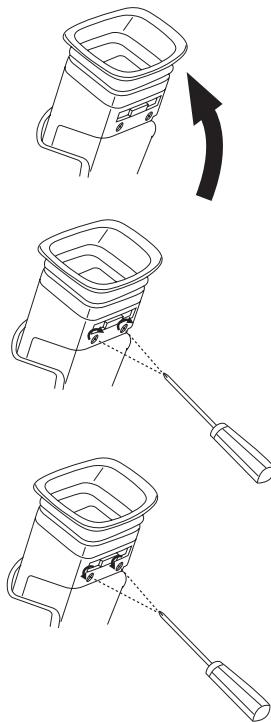
SD Memory Card

The SD Memory Card (optional), which is the same size as the MultiMediaCard, is an external memory card with an even bigger memory capacity. It has a write protect switch to prevent the data writing and card formatting, and it comes with a copyright protection function that complies with the SDMI (Secure Digital Music Initiative) standard. Music play is possible only with an SD Memory Card.

- SD Logo is a trademark.
- Portions of this product are protected under copyright law and are provided under license by ARIS/SOLANA/4C.

Notes On Operations

Cleaning EVF (Electronic Viewfinder)



1 Slide the Viewfinder backward to its fully expanded position and then tilt it upward.

2 Remove the 2 screws from the EVF Eyepiece with a screwdriver (+).

3 Turn the Eyepiece counterclockwise 1/8 of a turn.

4 Pull the Eyepiece free. Remove any lint or dust particles with a soft clean cloth being careful not to scratch the glass surfaces.

5 To re-install the Eyepiece

Line up the marks on the Eyepiece with the grooves inside the EVF shaft and attach. Turn it clockwise 1/8 of a turn to lock in place.

6 Replace the EVF Eyepiece screws and tighten with a screwdriver.

- If you lose an EVF Eyepiece screw, order Part No.XQN2+BJ5FXK.

Notes On Operations

Approximate Brightness Values

Your Palmcorder has been designed for normal scene illumination of 150 footcandles (1500 lx). However, the Palmcorder may be used at F1:1.6, if illumination is more than 0.5 footcandles (5 lx).

The table below shows the color temperature for reference.

PALMCORDER SETTINGS	NATURAL LIGHT CONDITIONS	KELVIN COLOR TEMPERATURE	ARTIFICIAL LIGHT SOURCE	COLOR TINT MIXTURE
"OUTDOOR"	<ul style="list-style-type: none">• Fair weather, blue sky• Slightly cloudy sky• Cloudy or rainy sky• Sunlight in clear weather at midday• Average sunlight in clear weather• Sunlight 2 hours after sunrise and before sunset• Sunlight 40 min. after sunrise and before sunset• Sunlight 30 min. after sunrise and before sunset• Sunlight 20 min. after sunrise and before sunset	<ul style="list-style-type: none">— 10,000— 8,000— 7,000— 6,500— 6,000— 5,500— 5,000— 4,500— 4,000— 3,500— 3,200— 2,800— 2,000	<ul style="list-style-type: none">• Color television• Fluorescent lamp (Daylight)• Camera flash bulb• Blue lamp for photography• Fluorescent lamp (White)• Normal flash bulb• Fluorescent lamp (Off-white)• Tungsten lamp for photography• Halogen lamp• Iodine lamp• Tungsten lamp• Acetylene lamp• Kerosene lamp• Candlelight	Bluish
"AUTO"				Whitish
"INDOOR"				Yellowish
				Reddish

Specifications

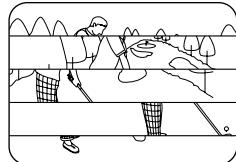
Power Source:	Palmcorder: 7.2 V DC (Battery) 7.8 V DC (AC Adaptor) AC Adaptor: 110/120/220/240 V AC, 50/60 Hz Battery: Lithium-Ion Type DC 7.2 V
Power Consumption:	Palmcorder: 7.2 V DC 6.5 W (Max. 9.5 W) AC Adaptor: 18 W 1 W (when not in use.)
Digital Interface	USB/i.Link (IEEE1394)
Video Signal:	EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System:	2 rotary heads. helical scanning system
Audio:	12 bit (32 kHz) 4 tracks 16 bit (48 kHz) 2 tracks
Pick-Up System and Device:	One integral color filter Charge Coupled Device (CCD)
Lens:	20:1 zoom lens, F1:1.6 with auto iris control Focal length: 3.6 mm - 72 mm Power zoom function Lens filter diameter: 43 mm
Viewfinder:	0.44 inch (12.7 mm) Liquid Crystal Electronic Viewfinder
LCD Monitor:	3.0 inch (76.2mm) Liquid Crystal Display
Minimum Illumination Required:	5 lx (F1:1.6) 0.5 footcandles 0 lx (MAGICVU/OLUX ON)
Image Storage (supplied 8 MB MultiMediaCard)	320 x 240 pixels (NORMAL mode) 640 x 480 pixels (FINE mode) Approx. 240 images (NORMAL mode) Approx. 60 images (FINE mode)
Image Format	JPEG (Design Rule for Camera File System)
Operating Temperature:	32 °F~104 °F (0 °C~40 °C)
Operating Humidity:	10 %~75 %
Weight:	Palmcorder: 1.45 lbs. 0.66 kg AC Adaptor: 0.35 lbs. 0.16 kg
Dimensions:	Palmcorder: 3-3/8 (W) x 4-1/4 (H) x 6-1/2 (D) inch 85 (W) x 107.5 (H) x 166 (D) mm AC Adaptor: 2-3/4 (W) x 1-3/4 (H) x 4-1/2 (D) inch 70 (W) x 45 (H) x 115 (D) mm

Weight and dimensions shown are approximate.

Designs and specifications are subject to change without notice.

Before Requesting Service

Cleaning Care for Video Heads



Clogged Video Head

(a) Video Head Cleaning: Normally, your Palmcorder will not require head cleaning. However, it is possible that the heads may become clogged due to dust in the air, playing damaged tapes, long term use, etc. If "NEED HEAD CLEANING" appears for 5 seconds in the EVF or LCD monitor, the heads may require cleaning.

(b) Cleaning the Heads: It is recommended that head cleaning be performed by a qualified service technician. Please contact your nearest Panasonic Servicenter. An alternate solution is to obtain a head cleaning cassette. Please use Panasonic cleaning cassette (AY-DVMCL). Be sure to follow the cleaning instructions carefully. Excessive use of the head cleaning cassette could shorten video head life.

Use this cassette only when a head clogging symptoms occur.

Refer servicing to qualified service personnel.

Tape Operations Caution

- When you go from function to function (PLAY, FF, REW etc.), please note that the unit will not accept a new function operation until the previous operation is complete.
- The POWER Button and all function buttons, (PLAY, FF, REW, etc.) are only operational after the tape has been completely loaded.

Lens Hood Area Operation Caution

When the following accessories are attached and the zoom is set to maximum wide angle, the four corners of the scene may appear darker:

- Wide or Telephoto conversion lens (optional).
- A filter (optional), etc. and then the lens hood.
- Two filters (optional).

Before Requesting Service

If you have a problem with your Palmcorder, it may be something you can correct yourself.

Check the list below for symptoms and corrections.

Symptom	Correction
No picture in the EVF or LCD Monitor...	<ul style="list-style-type: none">• Make sure the Power Source is connected. (pp. 11, 12)• Make sure the POWER switch is set to VCR or CAMERA. (pp. 22, 27)• Check the Dew Indicator. (p. 21)• Make sure the Battery is fully charged. (p. 11)• Make sure all necessary cables are connected correctly and firmly. (p. 12)• Make sure the Lens Cap is removed. (p. 22)
Video cassette cannot be inserted...	<ul style="list-style-type: none">• Make sure the Power Source is connected. (pp. 11, 12)• Insert the cassette record tab up, window side facing out. (p. 9)
Video cassette cannot be removed...	<ul style="list-style-type: none">• Make sure the Power source is connected. (pp. 11, 12)
No operation starts when operation buttons are pressed...	<ul style="list-style-type: none">• Check the Dew Indicator. (p. 21)
Recording cannot be done...	<ul style="list-style-type: none">• Make sure the record tab is closed. (p. 6)• Check the Battery Indication. (p. 19)
Auto Focus does not operate...	<ul style="list-style-type: none">• Make sure FOCUS is set to AUTO. (p. 47)• Make sure the unit is ON and set to CAMERA mode. (p. 22)
Sound from microphone cannot be monitored...	<ul style="list-style-type: none">• Make sure the unit is set to REC or REC/PAUSE mode.
Sound cannot be heard...	<ul style="list-style-type: none">• Make sure the Audio on the VCR MENU is set to ST1. (pp. 17, 50)

Index of Controls

Front View

D.ZOOM Button

See page 40.

EIS Button

See page 39.

TRANSFER Button

See page 55.

MAGICVU/0LUX

Switch
(PV-DV401 only)

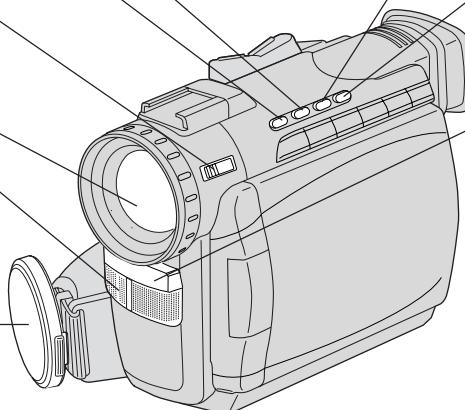
See page 42.

Lens

Built-in Twin Capsule 2-Way Microphone System

Lens Cap

See page 8.



Side View

PHOTOSHOT

Button

See pages 32, 33, 41.

Cassette Compartment Cover

See page 7.

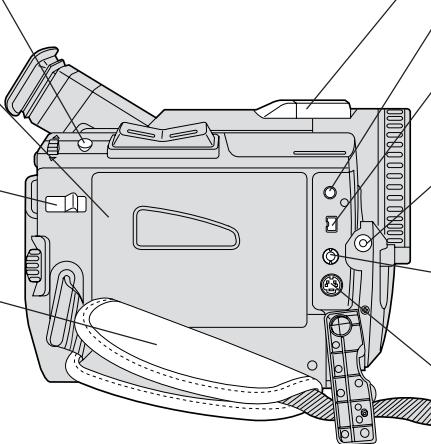
TAPE EJECT

Switch

See pages 7, 9.

Hand Strap

See page 8.



Built-in Light Mount

See page 7.

PHONE Jack

See page 27.

DV Input/Output (i.LINK "i")

Connector

See pages 52, 62.

External Microphone Jack (PV-DV401 only)

See page 49.

A/V Output

Connector

See pages 31, 51.

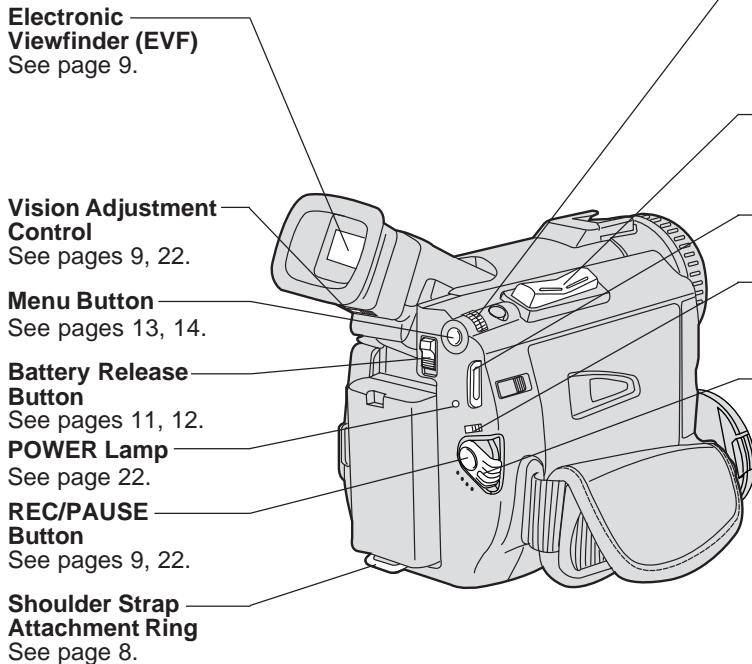
S-VIDEO Output

Connector

See pages 31, 51.

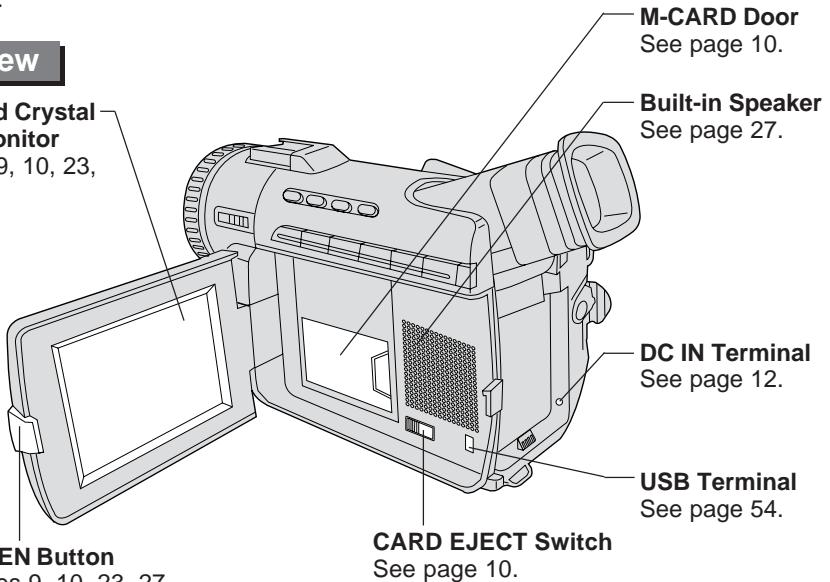
Index of Controls

Rear View



- The diagram illustrates the locations of three camera controls. The **JOG KEY** is located at the top right. The **VOLUME KEY** is located below it, towards the center. The **M.FOCUS DIAL** is located at the bottom right. A bracket on the left side of the diagram points to the **Electronic Viewfinder (EVF)**, which is located at the top left.

Rear View



- ## **LCD-OPEN Button**

Index of Controls

Side View

REW Button

See pages 10, 27.

◀ EDIT SEARCH Button

See pages 24.

STOP Button

See pages 10, 27.

M-STOP Button

See pages 34, 35, 36,
37.

PLAY Button

See pages 10, 27.

M-PLAY Button

See pages 34, 35.

FF Button

See page 28.



EDIT

SEARCH Button

See page 24.

PAUSE Button

See pages 28, 29,
49, 50, 51, 52.

CAMERA STILL Button

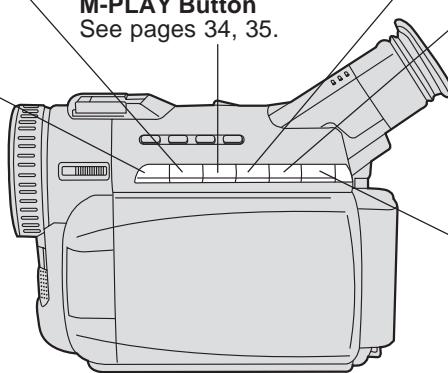
See pages 45.

REC Button

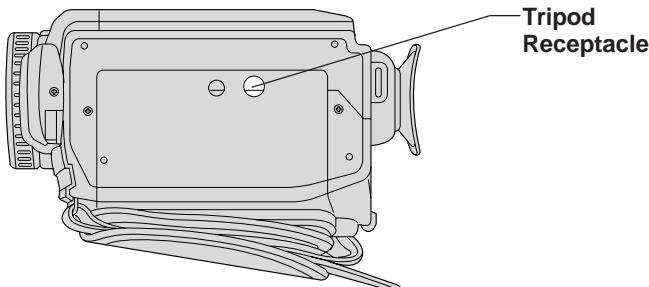
See page 52.

M-DEL Button

See pages 35,
36, 37.



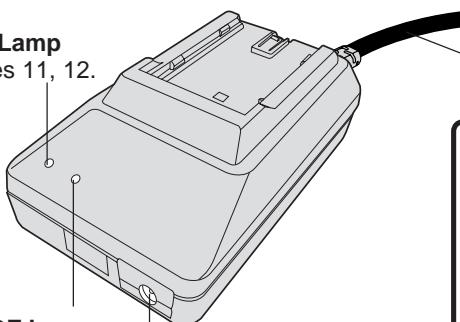
Underside View



AC Adaptor

POWER Lamp

See pages 11, 12.



CHARGE Lamp

See page 11.

VCR DC Output Connector

See page 12.

AC Power Cord

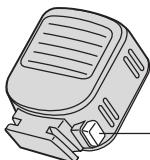
See pages 11, 12.

CAUTION:

This unit will operate on 110/120/220/240 V AC. An AC plug adaptor may be required for voltages other than 120V AC. Please contact either a local or foreign electrical parts distributor for assistance in selecting an alternate AC plug. We recommend using the accessory power plug adaptor (VJSS0070) in an area which has special AC outlets.

Index of Controls

Color Enhancement Light (Optional)



**LIGHT RELEASE
Button**
See page 7.



LIGHT Button
See page 7.

Remote Control

DATE/TIME Button
See pages 20, 25.

DISPLAY ON TV Button
See pages 25, 31.

COUNTER/TC Button
See pages 19, 25.

VIDEO REC Button
See pages 25, 52.

PLAY Button
See pages 25, 27, 52.

**REWIND/SEARCH
Button**
See pages 25, 28.

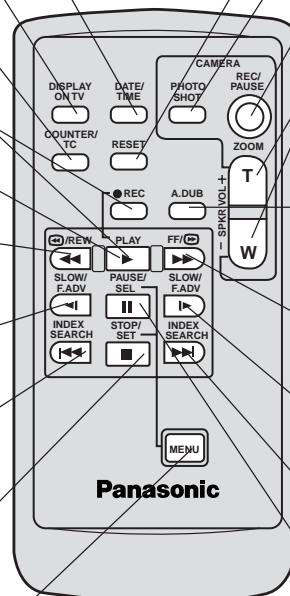
**REVERSE SLOW/
F. ADV Button**
See pages 25, 28, 29.

**REVERSE INDEX
SEARCH Button**
See pages 25, 30, 41.

STOP Button
See pages 25, 27.

SET Button
See pages 13, 14, 25.

MENU Button
See pages 13, 14, 50.



RESET Button
See pages 25, 50.

PHOTOSHOT Button
See pages 25, 41.

REC/PAUSE Button
See pages 22, 25.

POWER ZOOM Switch
See pages 22, 25.
SPKR VOL +/-
See pages 25, 27.

A.DUB Button
See pages 25, 49.

**FAST FORWARD/
SEARCH Button**
See pages 25, 28.

**FORWARD SLOW/
F. ADV Button**
See pages 25, 28, 29.

**FORWARD INDEX
SEARCH Button**
See pages 25, 30, 41.

PAUSE Button
See pages 25, 28, 52.
SEL Button
See pages 13, 14, 25.

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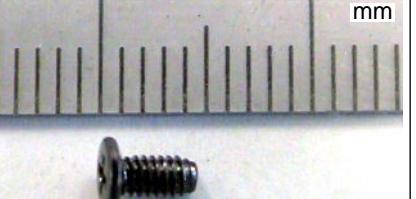
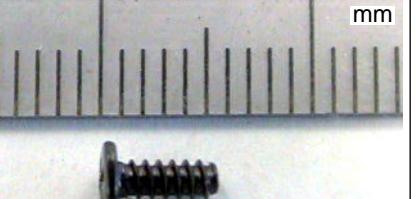
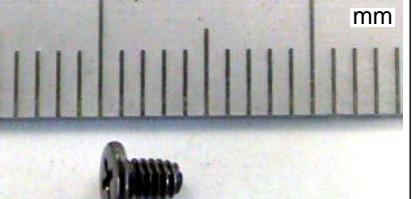
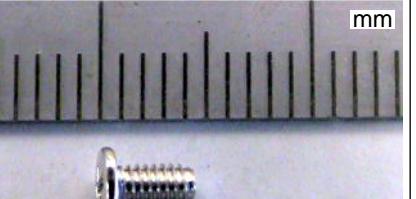
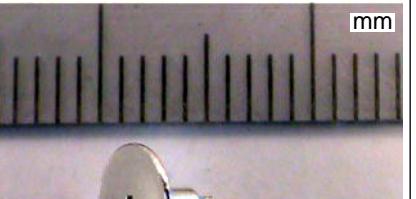
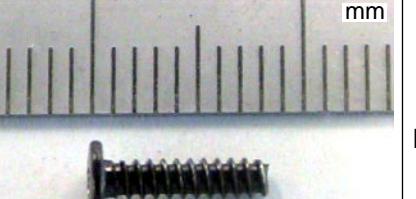
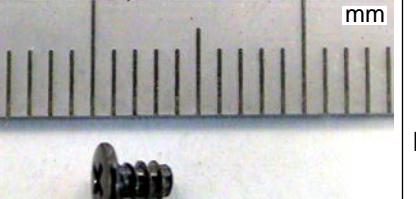
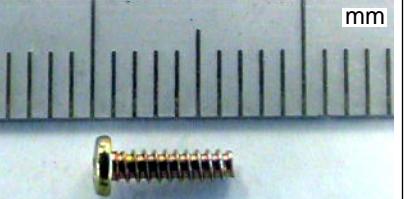
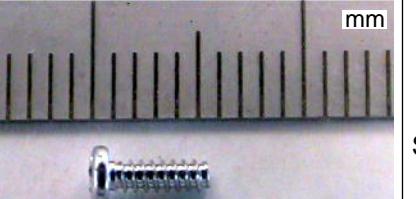
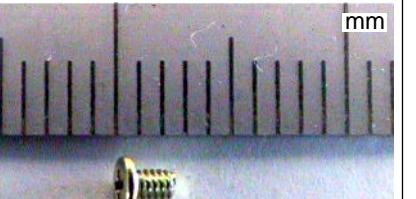
W

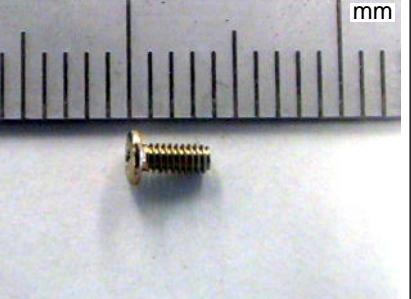
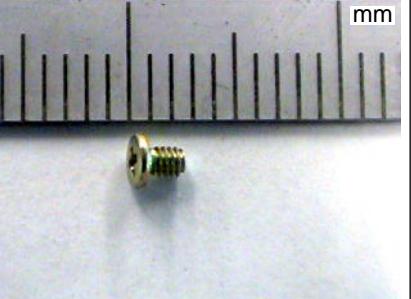
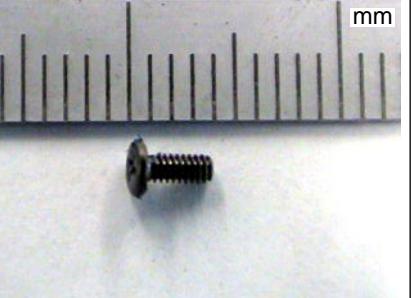
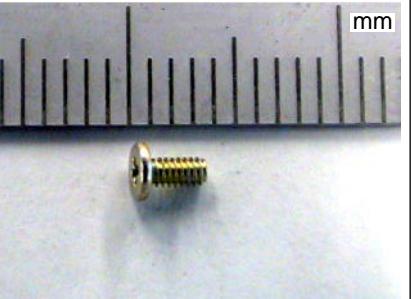
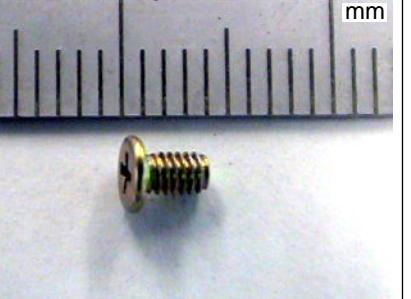
White Balance	42
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Z

Zoom In/Out	40
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Printed in Japan
LSQT0451A
S0101AO

Ref. No.	Side View	Color
④03	 mm	Black
④04	 mm	Black
④05	 mm	Black
④07	 mm	Silver
④13	 mm	Silver
④14	 mm	Black
④16	 mm	Black
④21	 mm	Gold
④22	 mm	Silver
⑤06	 mm	Gold

Ref. No.	Side View	Color
④29		Gold
④32		Gold
④71		Black
④78		Silver
⑤03		Gold
⑤04		Gold

SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES

1. Important safety notice

Components identified by the sign  have special characteristics important for safety. When replacing any of these components. Use only the specified parts.

2. Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

3. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Parts different in shape or size may be used.
However, only interchangeable parts will be supplied as service replacement parts.

5. Test point information

 :Test point with a no test pin.

Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes

The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

Example:
(6.2V).....Zener Voltage

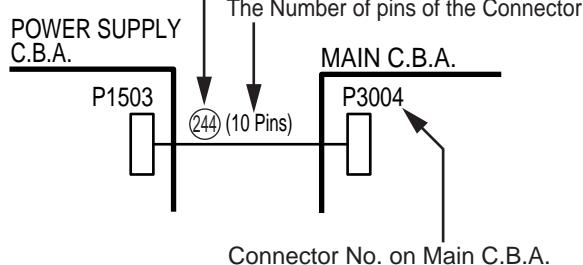
2. How to identify Connectors

Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to, in other words, its counter part.

Use the interconnection schematic diagram to find the connection between associated connectors.

Example:
The connections between C.B.A.s are shown below.

Ref. No. of the connection parts such as lead cable, flexible cable which is supplied as a replacement parts.

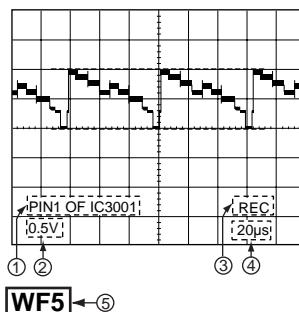


3. Parts enclosed in dashed lines marked "Z" are not used in any models included in this service manual.



Signal Waveform Note

How to read Signal Waveform



- ① Connecting Point
- ② Volts/Div
- ③ Operation Mode of VCR
- ④ Time/Div
- ⑤ Waveform Point on Schematic

Voltage Chart Note

Voltage Measurement

- a. Color bar signal in SP mode.
- b. ---:Unmeasurable or not necessary to measure.

Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.

For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

Comparison chart of models & marks

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z

Note:
Refer to item 3 of Schematic Diagram Notes for mark "Z".

ABBREVIATION

Signal Name	Description	Signal Name	Description
15V	Switching +15V	CAP RSF	Capstan direction control
-15V	Switching -15V	CAP SW	Capstan switching control
15V LCD	+15V for LCD	CAP VM	Power supply for capstan motor
18MCLK	18MHz clock	CASS DOWN	Cassette down: low
4.5M/FCK	4.5MHz clock	CCDOUT	Camera signal
5V	Switching +5V	CD/DAT3	MMC chip select : low
6MCLK	6MHz clock	CDATA2(0-7)	Digital chrominance data (0-7)
-7V	Switching -7V	CH1F	Channel 1 head
A GND	Ground	CH1S	Channel 1 head
A L IN/OUT	Audio L-CH signal	CH2F	Channel 2 head
A M OUT(L)	MIC audio L-CH signal	CH2S	Channel 2 head
A M OUT(R)	MIC audio R-CH signal	CIN-GAIN	Chrominance gain control
A R IN/OUT	Audio R-CH signal	CLK	LCD/EVF serial clock
ACKP	Acknowledge for PLANET	CLK1	H shift clock 1
ACKR	Acknowledge for R10	CLK135	13.5MHz clock
ADIN(0-9)	Digital camera data (0-9)	CLK2	H shift clock 2
A OUT L	Audio L-CH signal	CLK24	24.576MHz clock
A OUT R	Audio R-CH signal	CLK27A	27MHz clock
AD-KEY1	VTR key data	CLK27MB	27MHz clock
AD-KEY2	Camera key data	CLK3	H shift clock 3
AD-KEY3	Photoshot switch on: low	CMD	SD card command
ADM(0-15)	Address/data (0-15)	COM	Cylinder motro common
AF5V	+5V for auto focus	COUT	Chrominance signal
AFG1	Capstan FG head 1	CPV	V shift clock
AFG2	Capstan FG head 2	CSUB	(Not used)
AFRP	Audio frame pulse	CYL ERR	Cylinder error signal
AGCCTL	AGC control	CYL FG	Cylinder FG head
AIDATO	Audio data 0	CYL ON	Cylinder on: low
AIDAT1	Audio data 1	CYL PG	Cylinder PG head
ALC CONT-	ALC control (-)	CYL SW	Cylinder switching control
ALC CONT+	ALC control (+)	CYL VM	power supply for cylinder motor
ALC MAIN-	ALC main coil (-)	D-	USB data (-)
ALC MAIN+	ALC main coil (+)	D+	USB data (+)
ALCPWM	ALC PWM control	DATA	LCD/EVF serial data
AMUTE H	Audio mute: high	DBI	Test pin
ANALOG-IN-SW	A/V input/output switch	DBP(0-3)	Digital data for DV (0-3)
AON H	Audio line mute : low	DBR(0-3)	Digital Rec/PB data (0-3)
AS	Address strobe	DBUS/NC	USB 5V / Non connect
ATF OUT	ATF signal	DEW	Dew sensor
ATFI	ATF signal	DOBCK	Audio bit clock
AVIN H	Analog Line Video mute : high	DODAT	Audio data 2
B	B(Video blue) signal	DOLRK	Audio left/right clock
BATT D	Battery detect	DOMCK	Audio master clock
BATT DET	Battery detect	DRIVE CLK	Drive clock
BATT REF	Reference voltage for battery	DSC CLK	DSC serial clock
BATT T	Battery temperature	DSC CONT	DSC control
BATT TMP	Battery temperature	DSC CONT2	DSC control 2
BEND	Block end control	DSC CONT3	DSC control 3
BL CONT	Backlight control	DSC DI	DSC serial data 1
BL5V	+5V for backlight	DSC DO	DSC serial data 0
C DOWN	Cassette down detect: low	DSC SW	DSC mode: low
C GCTL	Chrominance gain control	DV INT	DV interrupt
C IN/OUT	Component chrominance signal	DWN	EVF LCD reverse(up/down) control
CAM ADKEY	Camera key data	ECM(R)	MIC audio R-CH signal
CAM CG CLK	Timing generator serial clock	ECM(L)	MIC audio L-CH signal
CAM CG CS	Timing generator chip select	EJECT SW	Eject switch on: low
CAM CG DTO	Timing generator serial data	EN	Gate output enable
CAM CLK	EVR serial clock	ENVELOPE	Envelope signal
CAM DAC CLK	Camera DAC serial clock	EQHLD	Equalizer hold
CAM DAC CS	Camera DAC chip select	EVENT0	(Not used)
CAM DAC DTO	Camera DAC serial data	EVENT1	(Not used)
CAM EXMOD1	Write mode select for flash micon	EVF B	EVF blue signal
CAM SBI	EVR serial data 1	EVF BL CONT	EVF backlight control
CAM SBO	EVR serial data 0	EVF BL5V	+5V for EVF backlight
CAM SW	Camera mode: low	EVF BOUT	EVF blue signal
CAM TEST	Camera test mode: low	EVF CS	EVF chip select
CAM TEST L	Camera test mode: low	EVF FRP	EVF frame pulse
CAM VD	Camera v-sync pulse	EVF G	EVF green signal
CAM VPP	VDD for flash micon	EVF GOUT	EVF green signal
CAM15V	+15V for camera	EVF HD	H-sync pulse
CAM3.2V	+3.2V for camera	EVF M B	EVF blue signal
CAMERA-7.0V	-7V for camera	EVF M G	EVF green signal
CAMHD	Camera h-sync pulse	EVF M R	EVF red signal
CAMMMOD0	Write clock for flash micon	EVF R	EVF red signal
CAMMMOD1	Write clock for flash micon	EVF ROUT	EVF red signal
CAM-TEST L	Camera test mode: low	EVF Y	EVF luminance signal
CAMVD	Camera v-sync pulse	EVF YOUT	EVF luminance signal
CAP ERR	Capstan error signal	EVF12V	+12V for EVF
CAP FG	Capstan FG head	EVF3V	+3V for EVF
CAP FG OUT	Capstan FG head	EVF5V	+5V for EVF

ABBREVIATION (continue)

Signal Name	Description
EVFPOL	EVFpolarity
EVR SCK	EVR serial clock
EVR SI(EC-DATA)	EVR serial data 1
EVR SO(CE-DATA)	EVR serial data 0
EXMOD1	Write mode select for flash micon
EXT MIC IN L	External MIC in detect: low
EXT PAUSE	External power save
F ENC	Focus encoder
FB5V	+5V for backlight
FD(0)	Focus motor drive 0
FD(1)	Focus motor drive 1
FD(2)	Focus motor drive 2
FD(3)	Focus motor drive 3
FDC(0)	Focus motor drive conytrol 0
FDC(1)	Focus motor drive conytrol 1
FDC(2)	Focus motor drive conytrol 2
FENC	Focus encoder
FG+	Cylinder FG head
FN0	F number signal
FOCUS MT1	Focus motor 1
FOCUS MT2	Focus motor 2
FOCUS MT3	Focus motor 3
FOCUS MT4	Focus motor 4
FP	Flash Protect
FRP	Frame pulse
FVCC	Switch
G	G(Video green) signal
GND	Ground
H1	CCD H pulse
H1-	Hall element 1 (-)
H1+	Hall element 1 (+)
H2	CCD H2 pulse
H2-	Hall element 2 (-)
H2+	Hall element 2 (+)
H3-	Hall element 3 (-)
H3+	Hall element 3 (+)
HA OUT	Envelope signal
HCK 1	H shift clock 1
HCK 2	H shift clock 2
HD	H-sync pulse
HDATA	H-pulse
HID	Heads witch pulse
HID1	Heads witch pulse 1
HID2	Heads witch pulse 2
HOLE BIAS	Hall bias control
HOLE GAIN	Hall amp gain control
HOLE IN-	Hall amp input (-)
HOLE IN+	Hall amp input (+)
HOLE OUT-	Hall amp output (-)
HOLE OUT+	Hall amp output (+)
HP IN H	Headphone in detect: high
HP L	Headphone audio L-CH signal
HP L OUT	Headphone audio L-CH signal
HP R	Headphone audio R-CH signal
HP R OUT	Headphone audio R-CH signal
HP-DET L	Headphone in detect: high
HPMUTE H	Headphone mute: high
HPON H	Headphone on: high
HRA5V	+5V for head amp
HSE	Rec data (Video + Audio)
HST	H start pulse
HSYNC	Hsync pulse
IN/OUT SW	A/V input/output select switch
INF	Input frame
INH2	Input H sync 2
INPUT SEL	Input select
INSEL	Input select
INV2	Input V sync 2
IR-REMOCO	Remotecontrol data
KEY VDD	Power supply for key switch
KURU ENC0	JOG encoder 0
KURU ENC1	JOG encoder 1
KURUPON	JOG switch on: low
LCD B	LCD blue signal
LCD BL CONT	LCD backlight control
LCD BL5V	+5V for LCD backlight
LCD BOUT	LCD blue signal
LCD CLK	LCD/EVF serial clock
LCD CS	LCD chip select
LCD DO	LCD/EVF serial data

Signal Name	Description
LCD FRP	LCD frame pulse
LCD G	LCD green signal
LCD GOUT	LCD green signal
LCD M B	LCD blue signal
LCD M G	LCD green signal
LCD M R	LCD red signal
LCD ON	LCD power on: high
LCD ON H	LCD power on: high
LCD OPEN	LCD panel open: low / close: high
LCD R	LCD red signal
LCD ROUT	LCD red signal
LCD RVS	LCD panel reverse: low / nornal: high
LCD12V	+12V for LCD
LCD-15V	-15V for LCD
LCD3.2V	+3.2V for LCD
LCD3V	+3V for LCD
LCD5V	+5V for LCD
LCDHD	H-sync signal
LCD-OPEN-SW	LCD panel open: low / close: high
LCDPOL	LCD polarity
LCD-RVS-SW	LCD panel reverse: low / nornal: high
LED CONT	LED control
LED++	+3V for power LED
LED-CNT	LED control
LENS/LIGHT UNREG	Unswitch voltage for LENS/Light
LIBATT++	Battery voltage
LIGHT ON H	Light on: high
LIGHT SW	Light switch
LIGHT UNREG	Unswitch voltage for Light
LOAD	LCD chip select
M LOAD	Loadong motor drive (load)
M RESET	Microcontroller reset
M UNLOAD	Loading motor drive (unload)
M1	Capstan main coil 1
M1A	Cylinder main coil 1
M2	Capstan main coil 2
M2A	Cylinder main coil 2
M3	Capstan main coil 3
M3A	Cylinder main coil 3
MENU SW	Menu switch on: low
MENU-ENC1	JOG encoder 0
MENU-ENC2	JOG encoder 1
MIC CK	MIC serial clock
MIC CLK	MIC serial clock
MIC DC	MIC serial data
MIC DET	MIC serial data
MIC DT	MIC serial data
MIC INT H	External MIC in detect : low
MIC VDD	Power supply for MIC
MMOD0	Write data for flash micon
MMOD1	Write clock for flash micon
MODE	Test pln
NIGHT LED K	MAGICVU LED on: low
NIGHT UNREG	Unswitch voltage for GAGICVU LED
NIGHT-SHOT-SW	MAGICVUswitch on: low
NS-LED-K	MAGICVU LED on: low
OEH	Source drive enable
OEV	Gate drive enable
OSDBLKA	OSD blanking
OSDBLKB	OSD character
OSDCLK	OSD clock
OSDH	H-sync pulse
OSDV	OSD blue signal
OSDVB	V-syn signal
OSDVG	OSD green signal
OSDVR	OSD red signal
P.ON L	Switching power on: low
PBH	PB mode: high
PG+	Cylinder PG head
PHOTO SW	Photoshot switch on: low
PLANET CNA	PLANET cable connection information
PLANET PWD	PLANET power down
PON SW	JOG switch on: low
PORTA	Luminance/Chrominance output power save
POS COM	Mode switch common
POS1	Mode switch position 1
POS2	Mode switch position 2
POS3	Mode switch position 3
POWER LED	Power LED on: low
POWER ON	Switching power on: low

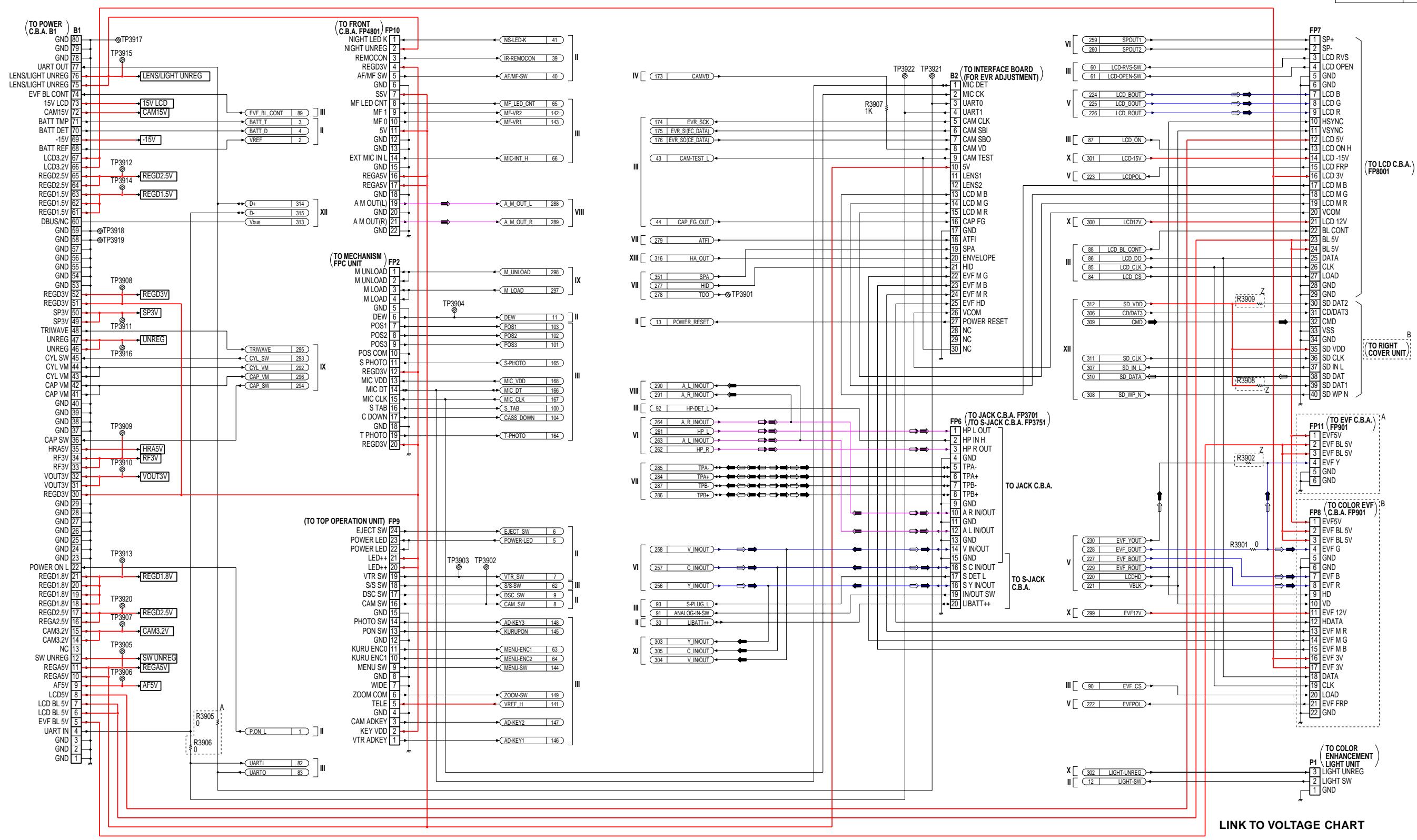
Signal Name	Description
POWER ON L	Switching power on: low
POWER RESET	Power reset: low
PWM BIAS	ALC PWM control
Q2H	Color filter switching pulse
R	R(Video red) signal
RA STAB	Safety tab switch on: low
RECCADJ	Rec current control
RECCLK	Rec clock
RECCTL	Rec control
RECI	Rec on/off control
REGA2.5V	Switching +2.5V
REGA5V	Switching +5V
REGD1.5V	Switching +1.5V
REGD1.8V	Switching +1.8V
REGD2.5V	Switching +2.5V
REGD3V	Switching +3V
REMOCON	Remote control data
REQP	Request of PLANET
REQR	Request of R10
RESET	Reset pulse (CCD)
RF AGCOUT	PB data (Video + Audio)
RF3V	+3V for RF
RGT	EVF LCD resease(left/right) control
RL	LCD reverse (left/right) control
S C IN/OUT	Component chrominance signal
S DET L	S-line detect: low
S PHOTO	Supply photo TR on: low
S TAB	Safety tab switch on: low
S Y IN/OUT	Component luminance signal
S/S SW	Rec/Pause switch on: low
S5V	Switching +5V
SBA CLK	Audio I/F serial clock
SBA CS	Audio I/F chip select
SBA DTI	Audio I/F serial data 1
SBA DTO	Audio I/F serial data 0
SD CLK	MMC/SD serial clock
SD DAT	MMC/SD serial data I/O
SD DAT1	MMC/SD serial data I/O
SD DAT2	MMC/SD serial data I/O
SD DATA	MMC/SD serial data I/O
SD IN L	SD card in detect: low
SD VDD	Power supply for MMC/SD card
SD WP N	SD write protect: low
SENS LED A	Sensor LED anode
SENS LED K	Sensor LED cathode
SIF CS	SIF chip select
SIF SCK	SIF serial clock
SIF SDA	SIF serial data
SP-	Speaker (-)
SP+	Speaker (+)
SP3V	+3V for speaker
SPA	Sample pulse for ATF
SPK ON H	Speaker on: high
SPK VOL	Speaker volume control
S-PLUG L	S-line detect: low
SPOUT1	Speaker (-)
SPOUT2	Speaker (+)
S-REEL	Supply reel pulse
SREEL(-)	Supply reel pulse (-)
SREEL(+)	Supply reel pulse (+)
SSP	Sector start pulse
STH1	H start pulse 1
STH2	H start pulse 2
STV1	V start pulse 1
STV2	V start pulse 2
SUB	CCD sub pulse
SW UNREG	Switching +7.2V
SYNC DET	Sync detect
T PHOTO	Takeup photo TR on: low
TCK	Test clock
TDI	Test data input
TDI PLANET	Test data input (PLANET)
TDI SIF	Test data input (S-I/F)
TDI TOPS	Test data input (TOPS)
TDO	Test data output
TELE	Zoom switch (TELE:reference voltage(H))
TMS	Test mode select
TORQUE LIMIT	Capstan torque limit
TPA-	Transaction data A (-)
TPA+	Transaction data A (+)

Signal Name	Description
TPB-	Transaction data B (-)
TPB+	Transaction data B (+)
TRCLK	(Not used)
TRDATA0	(Not used)
TRDATA1	(Not used)
TRDATA2	(Not used)
TRDATA3	(Not used)
TRDATA4	(Not used)
TRDATA5	(Not used)
TRDATA6	(Not used)
TRDATA7	(Not used)
T-REEL	Takeup reel pulse
TREEL(-)	Takeup reel pulse (-)
TREEL(+)	Takeup reel pulse (+)
TRIWAVE	Triabgle wave signal
TRST	Reset: low
TRSYNC	(Not used)
UART IN	RS-232C received data
UART OUT	RS-232C transmitted data
UARTI	RS-232C received data
UARTO	RS-232C transmitted data
UD	LCD reverse (up/down) control
UNLOAD	Loading motro drive (unload)
UNREG	Unswitch +7.2V
V IN/OUT	Component video signal
V1	CCD V1 pulse
V2	CCD V2 pulse
V3	CCD V3 pulse
V4	CCD V4 pulse
VB	Voltage for output buffer
VLBK	V-sync pulse
Vbus	USB +5V
VCCJ(2.8V)	+2.8V
VCK	V clock
VCOM	LCD V-COM signal
VD	V-sync pulse
VDD	Power supply for LCD panel unit
VEE	Negative power supply for LCD panel unit
VGH	Reference voltage (H) for LCD panel
VGL	Reference voltage (L) for LCD panel
VH-	Ground for Takeup/Supply reel sensor
VH+	Power supply for Takeup/Supply reel sensor
V1V2	EIS interrupt
VMR	VDD for capstan unit
VON H	Video output power save
VOUT3V	+3V for V-out
VPP	VDD for flash micon
VREF	Reference voltage
VREF H	Reference voltage (H)
VSS	Ground
VST	V start pulse
VSYNC	V-sync pulse
VTR ADKEY	VTR key data
VTR SW	VTR mode: low
WIDE	Zoom switch (WIDE: ground)
WIDE DET	Wide detect
XLRST	Reset: low
XPRST	Reset: low
XRE	Read enable
XRST	Reset: low
XWEH	Write enable
XWEL	Write enable
Y	Luminance
Y GCTL	Luminance gain control
Y IN/OUT	Component luminance signal
YDATA2(0-7)	Digital luminance data (0-7)
YIN-GAIN	Luminance gain control
YOUT	Luminance signal
Z ENC	Zoom encoder
ZD(0)	Zoom motro drive (0)
ZD(1)	Zoom motro drive (1)
ZD(2)	Zoom motro drive (2)
ZD(3)	Zoom motro drive (3)
ZDC(0)	Zoom motro drive control (0)
ZDC(1)	Zoom motro drive control (1)
ZDC(2)	Zoom motro drive control (2)
ZENC	Zoom encoder
ZOOM COM	Zoom switch data
ZOOM MT1	Zoom motror 1
ZOOM MT2	Zoom motor2

MAIN | SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z

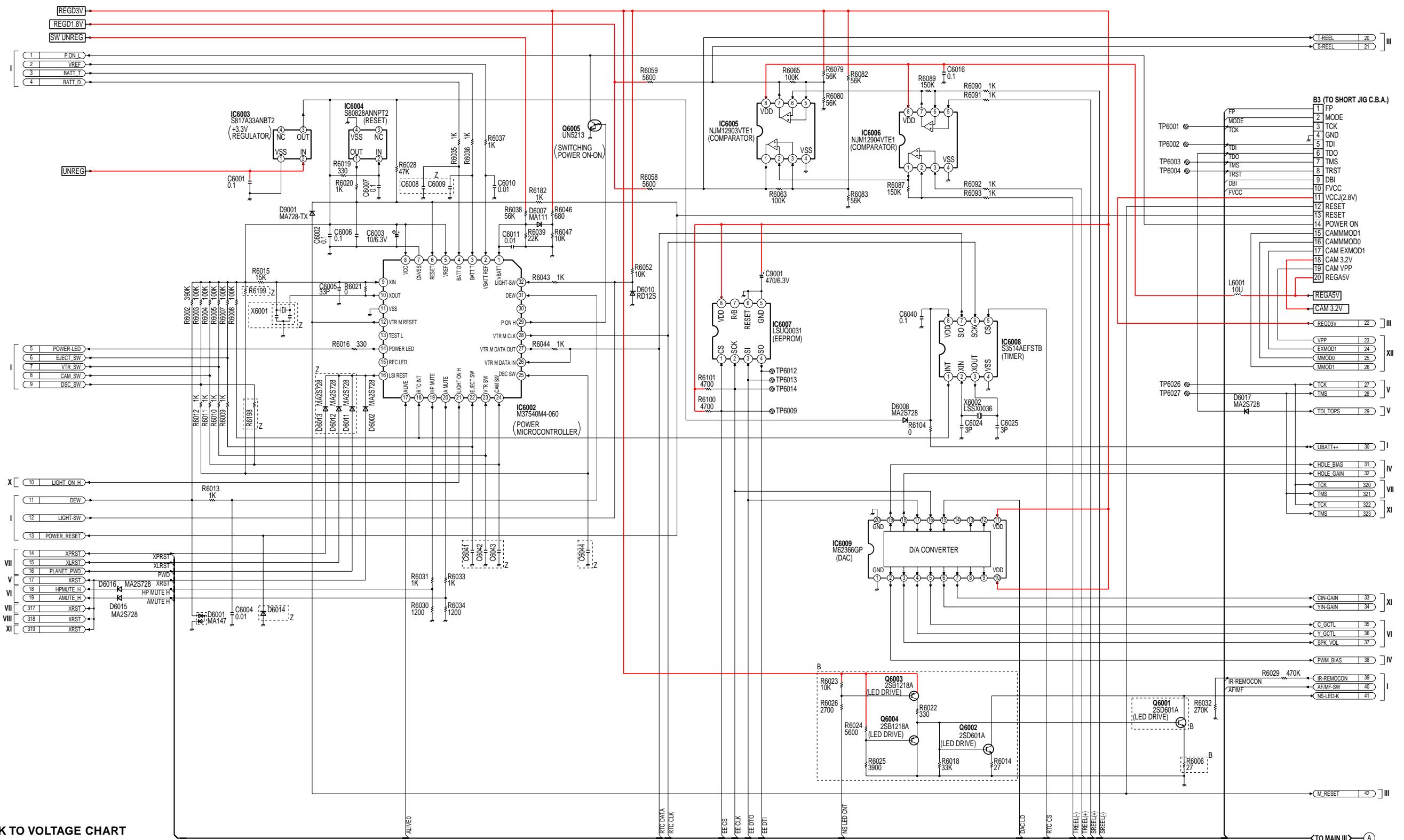


MAIN II SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



I/O CHART OF IC6002

Pin No.	I/O	Signal Name	Description
1	I	VBATT	Switching Battery voltage
2	I	VBATT REF	V-ref for Battery
3	I	BATT T	Battery temp
4	I	BATT D	Battery detect
5	I	VREF	V-ref (+3.3V)
6	I	RESET	Reset : low
7	-	CNVSS	Ground
8	I	VCC	+3.3V
9	I	XIN	(Not used)
10	O	XOUT	(Not used)
11	-	VSS	Ground
12	O	VTR M RESET	Reset : low
13	-	TEST L	(Not used)
14	O	POWER LED	Power LED on : low
15	-	REC LED	(Not used)
16	O	LSI RESET	Reset : low
17	I	ALIVE	Microcontroller serial chip select
18	I	RTC INT	Real time clock interrupt
19	O	HP MUTE	Headphone mute : high
20	O	A MUTE	Audio mute : high
21	O	LIGHT ON H	Light on : high
22	I	EJECT SW	Eject sw : low
23	I	VTR SW	VTR sw : low
24	I	CAM SW	Camera sw : low
25	I	DSC SW	DSC sw : low
26	I	VTR M DATA IN	Serial data 0
27	O	VTR M DATA OUT	Serial data 1
28	O	VTR M CLK	Serial clock
29	O	P ON H	Power on : high
30	-	N.C.	(Not used)
31	I	DEW	Dew sensor
32	I	LIGHT-SW	Light switch

I/O CHART OF IC6007

Pin No.	I/O	Signal Name	Description
1	I	CS	EEPROM chip select : high
2	I	SCK	EEPROM serial clock
3	I	SI	EEPROM serial data 0
4	O	SO	EEPROM serial data 1
5	-	GND	Ground
6	-	RESET	(Not used)
7	-	R/B	(Not used)
8	I	VDD	+3.0V

I/O CHART OF IC6008

Pin No.	I/O	Signal Name	Description
1	O	INT	Real timer clock interrupt
2	I	XIN	Crystal oscillator (32KHz)
3	O	XOUT	Crystal oscillator (32KHz)
4	-	VSS	Ground
5	I	CS	Timer chip select
6	I	SCK	Timer serial clock
7	I/O	SIO	Timer serial data
8	I	VDD	+3.3V

MAIN III SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z

*1, *2 IC6001 REPLACEMENT NOTE:

Three types of IC6001 (M32121FCAWG, M32121MCA100, or M32121MCA101) are used on arunning change basis.
When replacing IC6001, as in cases like the following, it is necessary to replace the resistor at the same time.
Otherwise, IC6001 may have a short life.

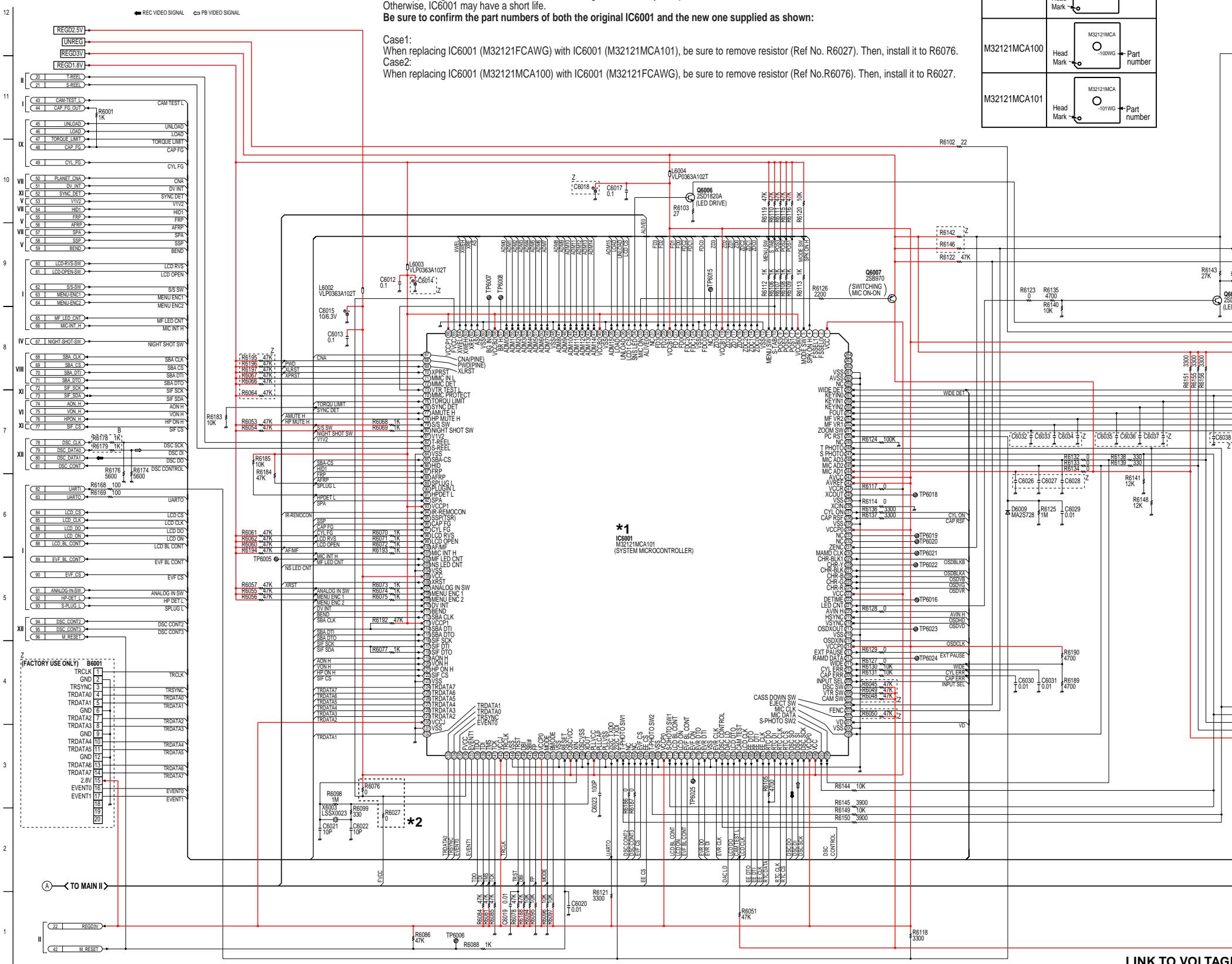
Be sure to confirm the part numbers of both the original IC6001 and the new one supplied as shown:

Case1:

When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA101), be sure to remove resistor (Ref No. R6027). Then, install it to R6076.

Case2:

When replacing IC6001 (M32121MCA100) with IC6001 (M32121FCAWG), be sure to remove resistor (Ref No.R6076). Then, install it to R6027.



I/O CHART OF IC6001

Pin No.	I/O	Signal Name	Description
1	I	VCC	+2.5V
2	-	FSSEL0	(Not used)
3	-	FSSEL1	(Not used)
4	O	SPK ON H	Speaker on : high
5	I	MODE SW	Jog switch on : low
6	I	VCCB0	+1.8V
7	I	POS1	Mode switch position 1
8	I	POS2	Mode switch position 2
9	I	POS3	Mode switch position 3
10	I	S-TAB	Safety tab on : low
11	I	MENU SW	Menu switch on : low
12	-	VSS	Ground
13	O	ZDC0	Zoom motor drive control 0
14	O	ZDC1	Zoom motor drive control 1
15	O	ZDC2	Zoom motor drive control 2
16	O	ZD0	Zoom motor drive 0
17	O	ZD1	Zoom motor drive 1
18	O	ZD2	Zoom motor drive 2
19	I	VCCB1	+3.0V
20	O	ZD3	Zoom motor drive 3
21	-	NC	(Not used)
22	O	FDC0	Focus motor drive control 0
23	-	VSS	Ground
24	O	FDC1	Focus motor drive control 1
25	O	FDC2	Focus motor drive control 2
26	O	FD0	Focus motor drive 0
27	O	FD1	Focus motor drive 1
28	I	VCCB1	+3.0V
29	O	FD2	Focus motor drive 2
30	O	FD3	Focus motor drive 3
31	-	NC	(Not used)
32	O	ALIVE0	Microcontroller communication chip select
33	O	MIC ON	MIC on : low
34	O	SNS LED	Sensor LED on : high
35	O	LCD1 CS	LCD chip select
36	O	UNLOAD	Loading motor reverse : high
37	O	LOAD	Loading motor forward : high
38	I/O	ADM15	Address/Data 15
39	-	VSS	Ground
40	I	VCCB2	+1.8V
41	I/O	ADM14	Address/Data 14
42	I/O	ADM13	Address/Data 13
43	I/O	ADM12	Address/Data 12
44	I/O	ADM11	Address/Data 11
45	I/O	ADM10	Address/Data 10
46	I/O	ADM9	Address/Data 9
47	I/O	ADM8	Address/Data 8
48	-	VSS	Ground
49	I/O	ADM7	Address/Data 7
50	I/O	ADM6	Address/Data 6
51	I/O	ADM5	Address/Data 5
52	I/O	ADM4	Address/Data 4
53	I/O	ADM3	Address/Data 3
54	I/O	ADM2	Address/Data 2
55	I/O	ADM1	Address/Data 1
56	I/O	ADM0	Address/Data 0
57	-	BR H	(Not used)
58	I	VCCB2	+1.8V
59	-	BG IN	(Not used)
60	-	VSS	Ground
61	O	AS	Address strobe
62	O	XRE	Read enable
63	O	XWEH	Write enable
64	O	XWEL	Write enable
65	I	FVCC	+2.5V
66	I	VCCP1	+1.8V

Pin No.	I/O	Signal Name	Description
67	I	CNA(PINE)	PLANET cable connection information
68	O	PWD(PINE)	PLANET power down
69	O	XLRST	LSI reset
70	O	XPRST	PLANET reset
71	-	MMC IN L	(Not used)
72	-	MMC DET	(Not used)
73	O	VTR TEST L	VTR test mode : low
74	-	MMC PROTECT	(Not used)
75	O	TORQU LIMIT	Capstan tague limit
76	I	SYNC DET	Sync detect
77	O	AMUTE H	Audio mute : high
78	O	HP MUTE H	Headphone mute : high
79	I	S/S SW	Rec/pause switch on : low
80	I	NIGHT SHOT SW	MAGICVU switch on : low
81	I	V1V2	EIS interrupt
82	I	T-REEL	Takeup reel pulse
83	I	S-REEL	Supply reel pulse
84	-	VSS	Ground
85	O	SBA-CS	Audio I/f chip select
86	I	HID	Head switch pulse
87	I	FRP	Frame pulse
88	I	AFRP	Audio frame pulse
89	I	SPLUG L	S-line in detect : low
90	-	PLUGIN L	(Not used)
91	I	HPDET L	Headphone in detect : low
92	I	SPA	Sample pulse for ATF
93	I	VCCP1	+1.8V
94	I	IR-REMOCON	IR data
95	I	SSP(TSR)	Sector start pulse
96	I	CAP FG	Capstan FG head
97	I	CYL FG	Cylinder FG head
98	I	LCD RVS	LCD panel reverse : low
99	I	LCD OPEN	LCD panel open : low
100	I	AF/MF	(Not used)
101	I	MIC INT H	External MIC detect : low
102	O	MF LED CNT	(Not used)
103	O	NS LED CNT	MAGICVU LED on : low
104	-	VSS	Ground
105	I	VCC	+2.5V
106	O	XRST	Reset : low
107	I	ANALOG IN SW	A/V Input/output select switch
108	I	MENU ENC 1	Jog encoder 0
109	I	MENU ENC 2	Jog encoder 1
110	I	DV INT	DV interrupt
111	I	BEND	Block end control
112	O	SBA CLK	Audio I/F serial clock
113	I	VCCP1	+1.8V
114	I	SBA DT1	Audio I/F serial data 1
115	O	SBA DT0	Audio I/F serial data 0
116	O	SIF SCK	SIF serial clock
117	I	SIF DT1	SIF serial data 1
118	O	SIF DT0	SIF serial data 0
119	O	AON H	Audio line mute : low
120	O	VON H	Video power save
121	O	HP ON H	Headphone on : low
122	O	SIF CS	SIF chip select
123	-	VSS	Ground
124	-	TRDATA7	(Not used)
125	-	TRDATA6	(Not used)
126	-	TRDATA5	(Not used)
127	-	TRDATA4	(Not used)
128	-	TRDATA3	(Not used)
129	-	TRDATA2	(Not used)
130	I	VCCJ	+3.0V
131	-	VSS	Ground
132	-	TRDATA1	(Not used)

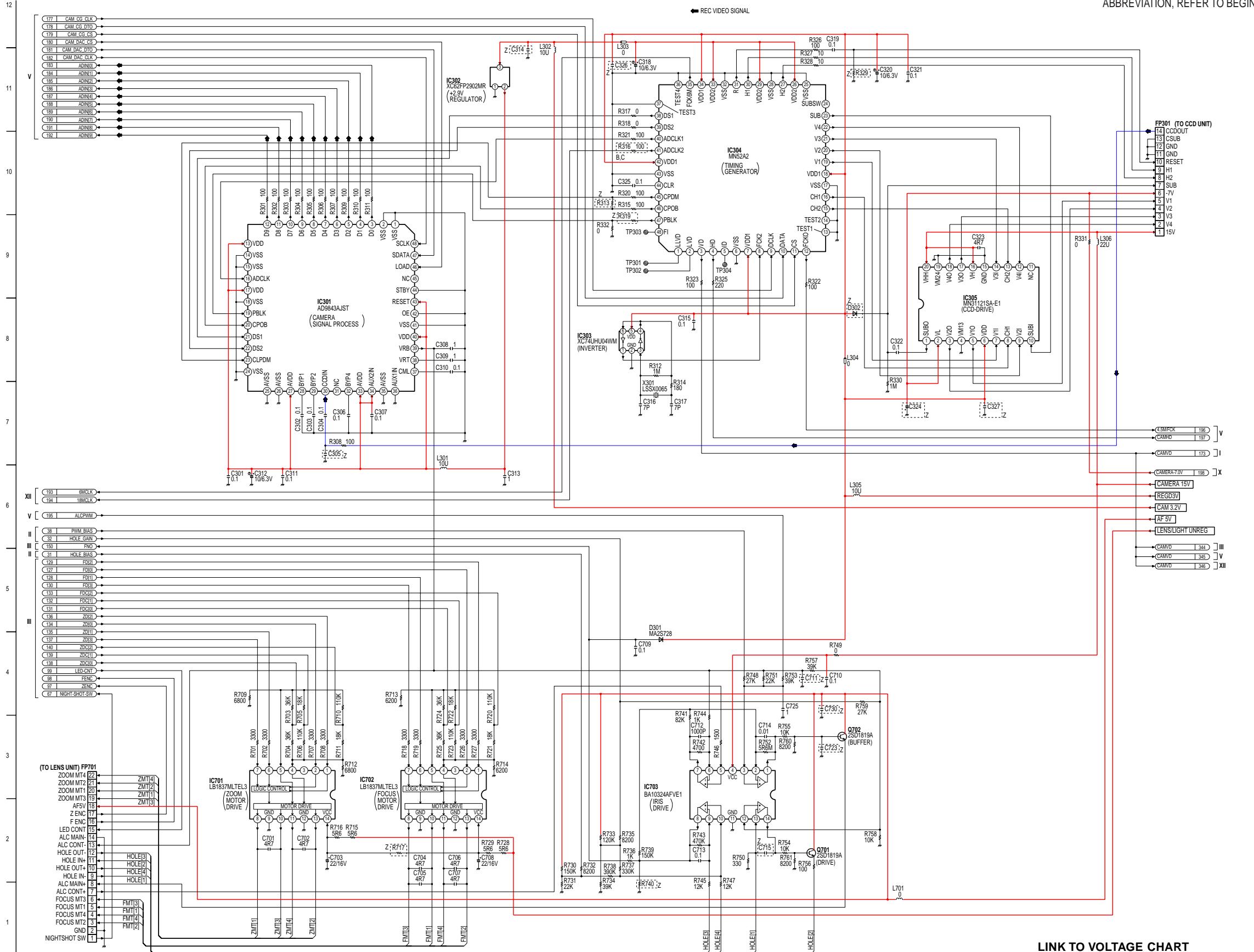
Pin No.	I/O	Signal Name	Description
133	-	TRDATA0	(Not used)
134	-	TRSYNC	(Not used)
135	-	EVENT0	(Not used)
136	I	FVCC	+2.5V
137	-	EVENT1	(Not used)
138	O	TDO	Test data output
139	I	TDI	Test data input
140	I	TMS	Test mode select
141	I	TCK	Test clock
142	I	VCCJ	+3.0V
143	-	TRCLK	(Not used)
144	-	VSS	Ground
145	-	TRST	Test reset
146	-	DBI	Test pin
147	-	SBI	Test pin
148	-	FP	Flash protect
149	I	VCCP0	+3.0V
150	-	MODE	Test pin
151	-	BMODE	Test pin
152	-	VSS	Ground
153	I	RESET	Micon reset
154	I	OSCVCC	+2.5V
155	I	XIN	Crystal oscillator
156	-	OSCVSS	Ground
157	O	XOUT	Crystal oscillator
158	I	PLLVCC	+2.5V
159	-	PLLCP	(Not used)
160	-	PLLVSS	Ground
161	O	232C TXDO	RS-232 transmitted data
162	I	232C TXDI	RS-232 received data
163	I/O	T-PHOTO SW1	Takeup photo TR switch 1
164	O	NC	DSC control 2
165	O	NC	DSC control 3
166	O	EVF CS	EVF chip select
167	O	EE CS	EEPROM chip select
168	I/O	T-PHOTO SW2	Takeup photo TR switch 2
169	-	VSS	Ground
170	I	VCCP0	+3.0V
171	I/O	S-PHOTO SW1	Supply photo TrR switch 1
172	O	LCD BL CONT	LCD backlight on : high
173	O	LCD ON	LCD on : high
174	O	EVF BL CONT	EVF backlight on : high
175	-	EVF ON	(Not used)
176	O	EV DT0	EV serial data 0
177	I	EV DT1	EV serial data 1
178	-	VSS	Ground
179	I	EV CLK	EV serial clock
180	O	DSC CONTROL	DSC control
181	O	DAC LD	DAC load
182	O	LCD DTO	LCD/EVF serial data
183	I	CAM TEST	Camera test mode
184	O	LCD CLK	LCD/EVF serial clocc
185	O	EE DT0	EEPROM serial data 0
186	I	EE DT1	EEPROM serial data 1
187	O	EE CLK	EEPROM serial clock
188	O	RTC D0	Timer serial data 0
189	I	RTC D1	Timer serial data 1
190	O	RTC CLK	Timer serial clock
191	O	RTC CS	Timer chip select
192	O	DSC SO	DSC serial data 1
193	I	DSC SI	DSC serial data 0
194	I	DSC SCK	DSC serial clock
195	I	VCCP0	+3.0V
196	I	VCC	+2.5V
197	I/O	S-PHOTO SW2	Supply photo TR switch 2
198	I/O	MIC DATA	MIC serial data

Pin No.	I/O	Signal Name	Description
199	O	MIC CLK	MIC serial clock
200	-	VSS	Ground
201	I	VD	V-sync pulse
202	-	EJECT SW	(Not used)
203	I	FENC	Focus encoder
204	I	CASS DOWN SW	Cassette down : low
205	-	CAM SW	(Not used)
206	-	VTR SW	(Not used)
207	-	DSC SW	(Not used)
208	O	INPUT SEL	Input select
209	O	CAP ERR	Capstan speed error
210	O	CYL ERR	Cylinder speed error
211	O	WIDE	Wide detect output
212	-	RAMD DATA	(Not used)
213	O	EXT PAUSE	External input power save
214	I	VCCP0	+3.0V
215	I	OSDXIN	OSD clock
216	-	VSS	Ground
217	-	OSDXOUT	OSD clock
218	I	VSYNC	V-sync pulse
219	I	HSYNC	H-sync pulse
220	O	AVIN H	Video mute : high
221	O	LED CNT	LED control
222	-	DETIME	(Not used)
223	I	VCC	+2.5V
224	O	CHR-R	OSD-red signal
225	O	CHR-G	OSD-green signal
226	O	CHR-B	OSD-blue signal
227	O	CHR-BLK	OSD-blanking
228	-	CHR-Y	(Not used)
229	O	CHR-BLK	

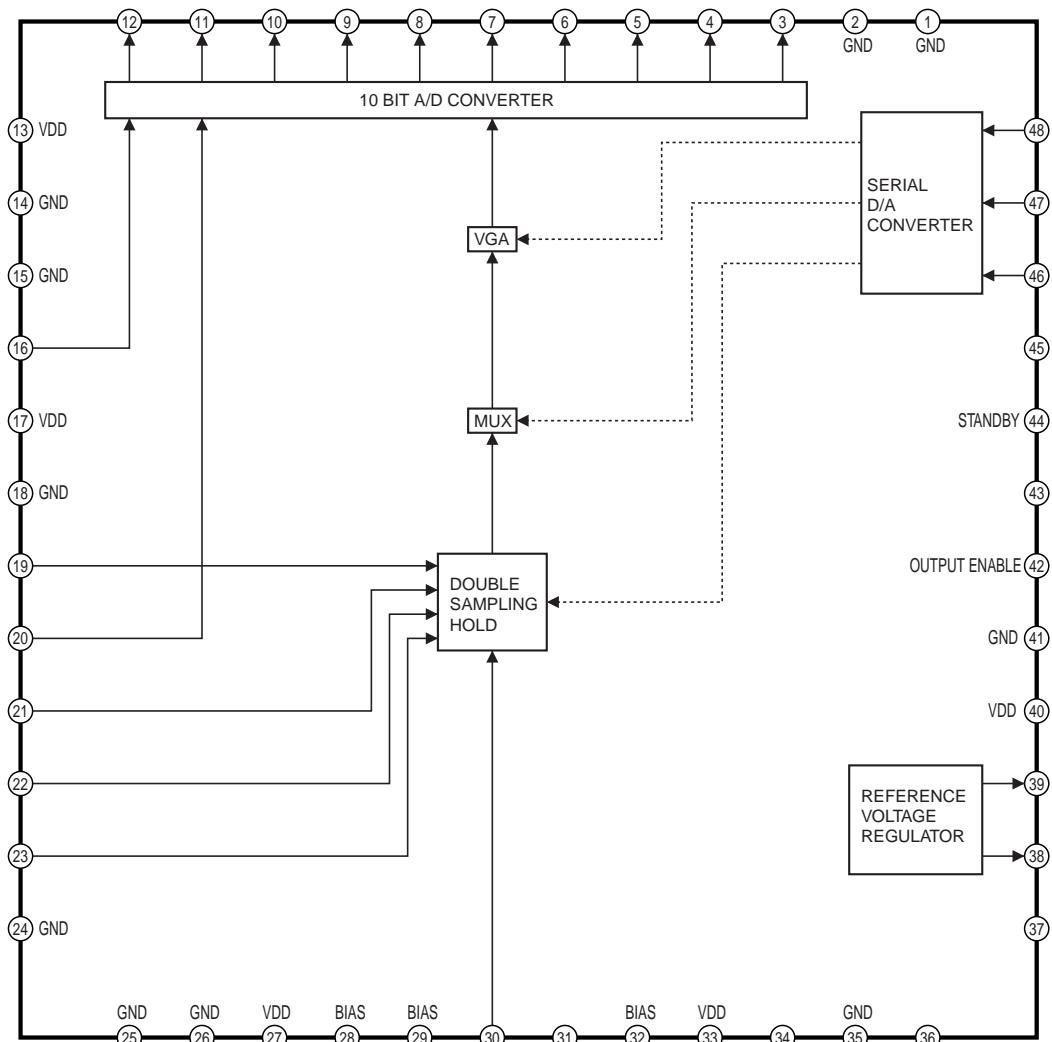
MAIN IV SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

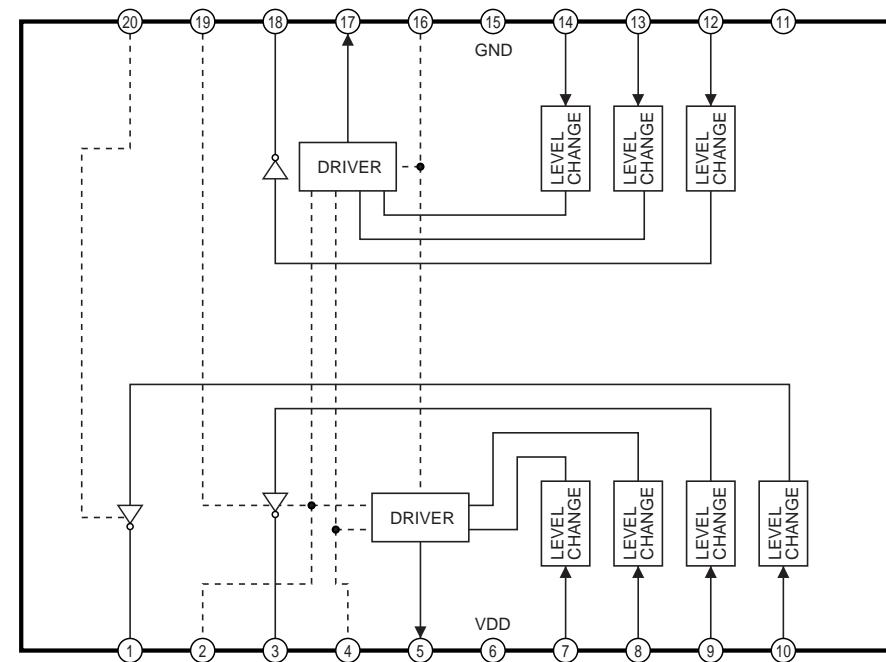
MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



IC301 BLOCK DIAGRAM



IC305 BLOCK DIAGRAM



I/O CHART OF IC304

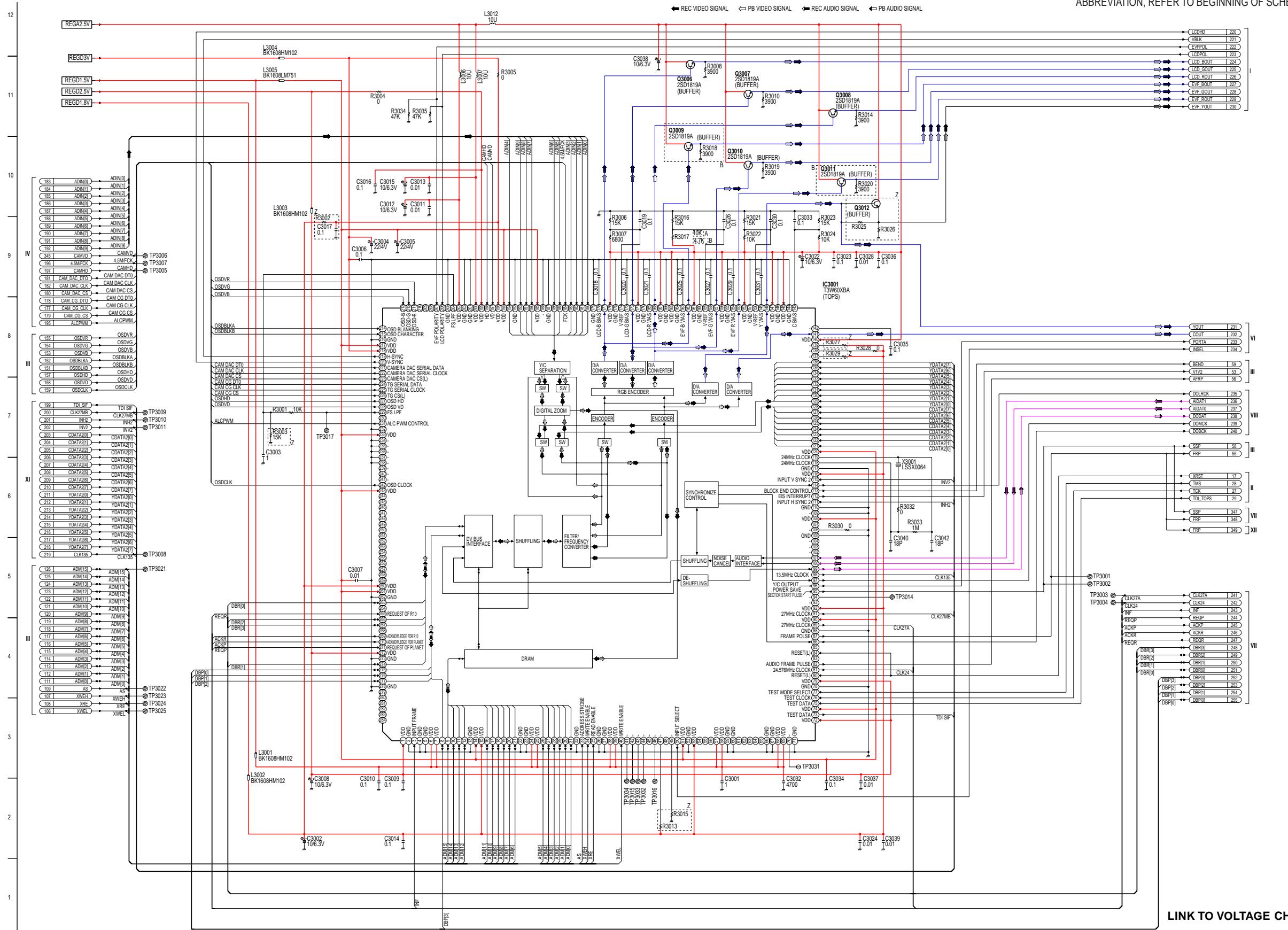
Pin No.	I/O	Signal Name	Description
1	-	LLVD	(Not used)
2	-	LVD	(Not used)
3	O	VD	V-sync pulse
4	O	HD	H-sync pulse
5	-	ID	(Not used)
6	-	VSS	Ground
7	I	VDD1	+3.0V
8	I	FCK2	2FCK clock (36MHz)
9	I	DCLK	TG serial clock
10	I	DATA	TG serial data
11	I	CS	TG chip select : low
12	O	FCK0	FCK clock (18MHz)
13	-	TEST1	(Not used)
14	-	TEST2	(Not used)
15	O	CH2	Charge pulse 2
16	O	CH1	Charge pulse 1
17	-	VSS	Ground
18	I	VDD1	+3.0V
19	O	V1	V1 pulse
20	O	V2	V2 pulse
21	O	V3	V3 pulse
22	O	V4	V4 pulse
23	O	SUB	Sub control pulse
24	-	SUBSW	Sub bias select switch
25	-	VSS	Ground
26	I	VDD2	+3.2V
27	O	H2	H2 pulse
28	-	VSS	Ground
29	I	VDD2	+3.2V
30	O	H1	H1 pulse
31	O	R	Reset pulse
32	-	VSS	Ground
33	I	VDD2	+3.2V
34	I	VDD1	+3.3V
35	O	FCK6M	6MHz clock
36	-	TEST4	(Not used)
37	-	TEST3	(Not used)
38	O	DS1	Sampling pulse 1
39	O	DS2	Sampling pulse 2
40	O	ADCLK1	A/D clock 1
41	O	ADCLK2	A/D clock 2
42	I	VDD1	+3.0V
43	-	VSS	Ground
44	-	CLR	(Not used)
45	O	CPDM	Dummy clamp pulse
46	O	CPOB	Optical black clamp pulse
47	O	PBLK	Pre blanking pulse
48	-	FI	(Not used)

MAIN V SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



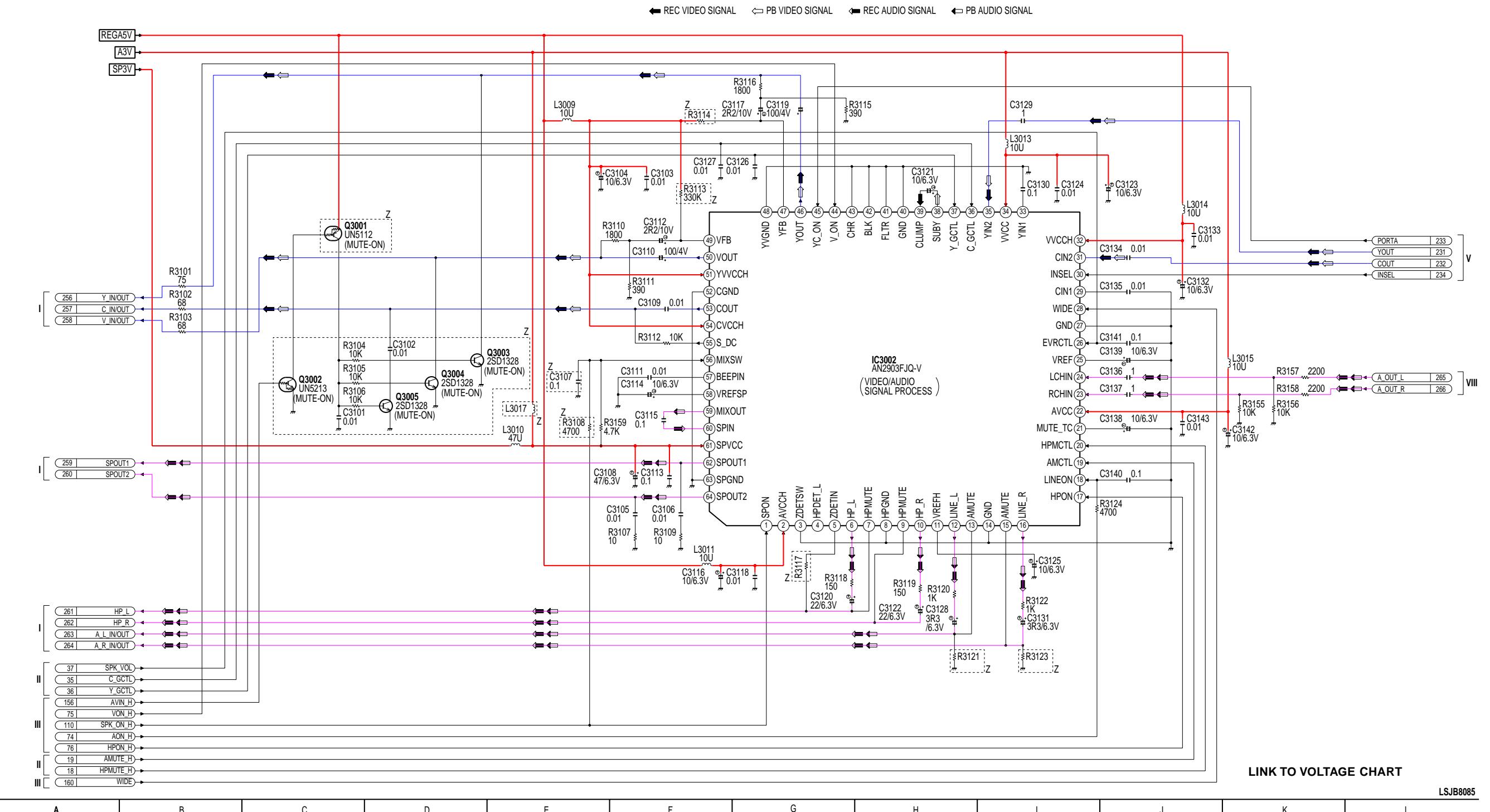
LINK TO VOLTAGE CHART

MAIN VI SCHEMATIC DIAGRAM

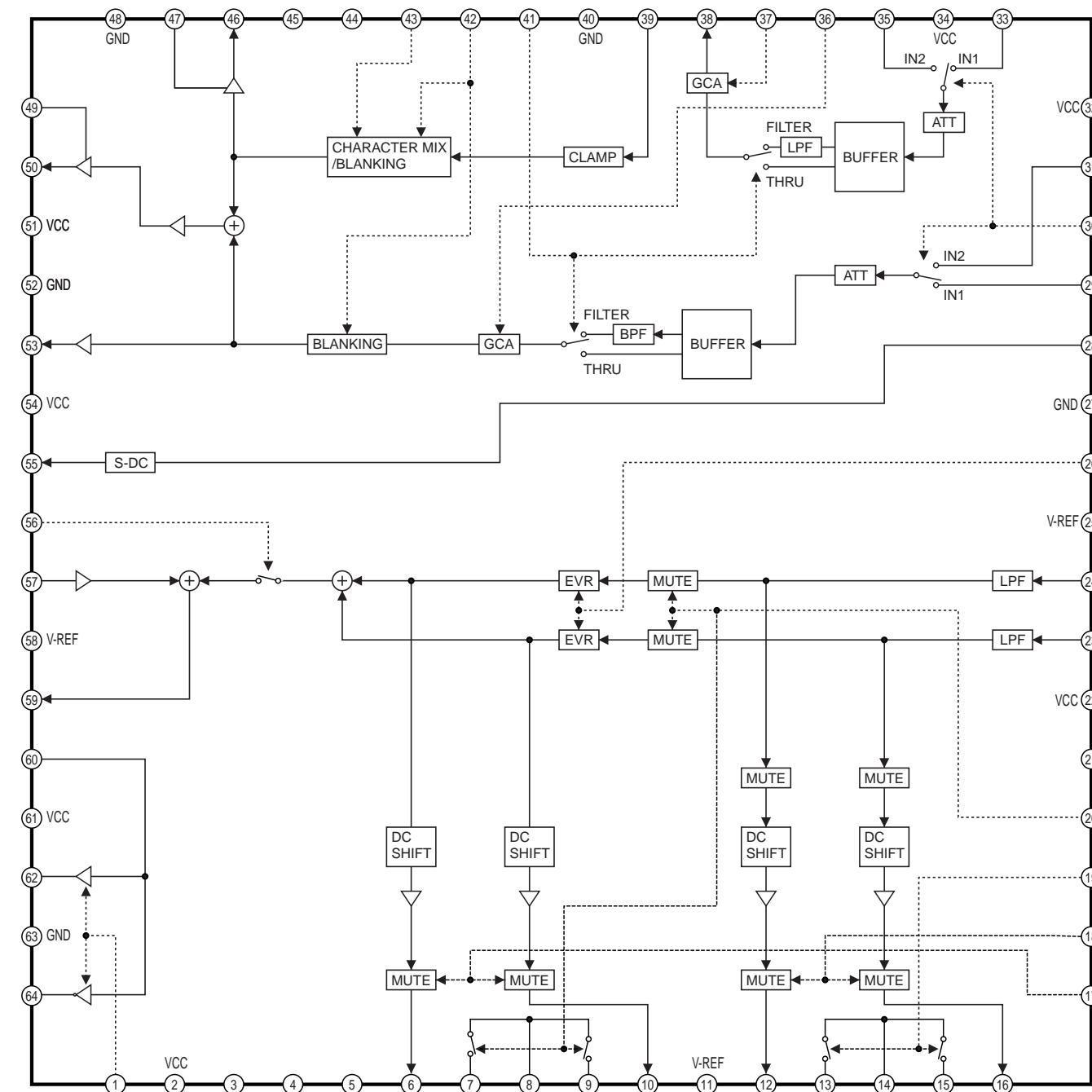
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



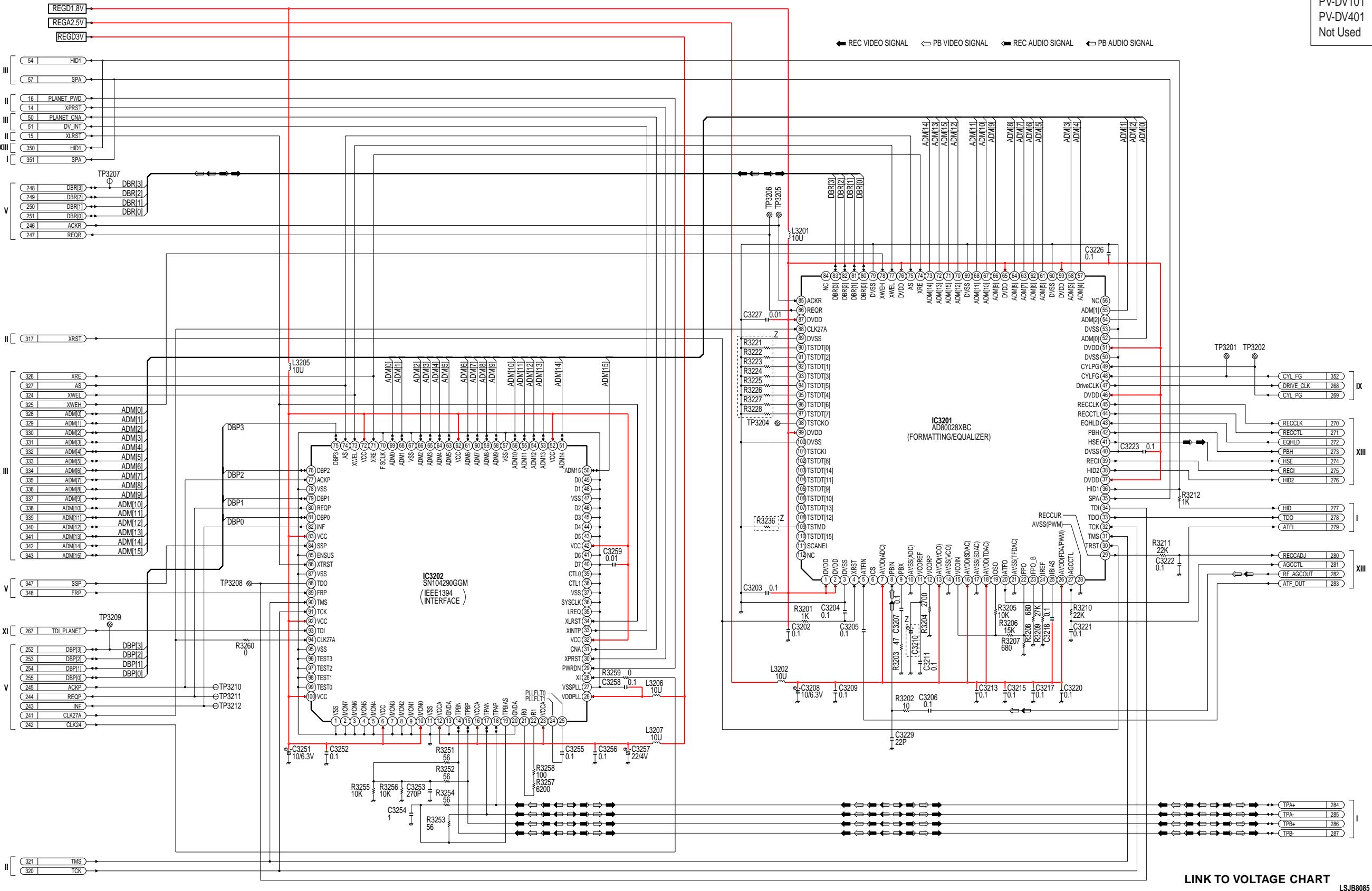
IC3002 BLOCK DIAGRAM



MAIN VII SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



I/O CHART OF IC3201

Pin No.	I/O	Signal Name	Description
1	I	DVDD	+1.8V
2	I	DVDD	+1.8V
3	-	DVSS	Ground
4	I	XRST	Reset : low
5	I	ATFIN	ATF input
6	-	CS	(Not used)
7	I	AVDD(ADC)	+2.5V
8	I	PBIN	PB data input (+)
9	I	PBX	PB data input (-)
10	-	AVSS(ADC)	Ground
11	-	VCOREF	VCO reference
12	-	VCORP	VCO reference resister
13	I	AVDD(VCO)	+2.5V
14	-	AVSS(VCO)	Ground
15	I	VCOIN	VCO input
16	I	AVDD(SDAC)	+2.5V
17	-	AVSS(SDAC)	Ground
18	I	AVDD(TDAC)	+2.5V
19	O	OSO	Offset output
20	O	ATFO	ATF output
21	-	AVSS(TFDAC)	Ground
22	O	FPO	Frequency Phase out (+)
23	O	FPO B	Frequency Phase out (-)
24	-	IREF	DAC current reference
25	-	IBIAS	DAC bias current
26	I	AVDD(FDA/PWM)	+2.5V
27	O	AGCCTL	AGC control
28	-	AVSS(PWM)	Ground
29	O	RECCUR	Rec current control
30	I	TRST	Reset : low
31	I	TMS	Test mode of JTAG
32	I	TCK	Test clock of JTAG
33	O	TDO	Test data In of JTAG
34	I	TDI	Test data out of JTAG
35	O	SPA	Sample pulse for ATF
36	O	HID1	Head switch pulse 1
37	I	DVDD	+1.8V
38	O	HID2	Head switch pulse 2
39	O	RECI	Rec on/off control
40	-	DVSS	Ground
41	O	HSE	Rec data
42	O	PBH	PB mode : high
43	I	EQHLD	Equalizer hold
44	O	RECCTL	Rec control
45	O	RECLK	Rec clock
46	I	DVDD	+1.8V
47	O	DriveCLK	Drive clock
48	I	CYLFG	Cylinder FG head
49	I	CYLPG	Cylinder PG head
50	-	DVSS	Ground
51	I	DVDD	+1.8V
52	I/O	ADM[0]	Address/data 0
53	-	DVSS	Ground
54	I/O	ADM[2]	Address/data 2
55	I/O	ADM[1]	Address/data 1
56	-	NC	(Not used)

I/O CHART OF IC3202

Pin No.	I/O	Signal Name	Description
57	I/O	ADM[4]	Address/data 4
58	I/O	ADM[3]	Address/data 3
59	I	DVDD	+1.8V
60	-	DVSS	Ground
61	I/O	ADM[5]	Address/data 5
62	I/O	ADM[6]	Address/data 6
63	I/O	ADM[7]	Address/data 7
64	I/O	ADM[8]	Address/data 8
65	I	DVDD	+1.8V
66	I/O	ADM[9]	Address/data 9
67	I/O	ADM[10]	Address/data 10
68	I/O	ADM[11]	Address/data 11
69	-	DVSS	Ground
70	I/O	ADM[12]	Address/data 12
71	I/O	ADM[15]	Address/data 15
72	I/O	ADM[13]	Address/data 13
73	I/O	ADM[14]	Address/data 14
74	I	XRE	Read enable
75	I	AS	Address strobe
76	I	DVDD	+1.8V
77	I	XWEL	Write enable
78	I	XWEH	Write enable
79	-	DVSS	Ground
80	I/O	DBR[0]	Digital Rec/PB data (0)
81	I/O	DBR[1]	Digital Rec/PB data (1)
82	I/O	DBR[2]	Digital Rec/PB data (2)
83	I/O	DBR[3]	Digital Rec/PB data (3)
84	-	NC	(Not used)
85	I	ACKR	Acknowledge for R10
86	O	REQR	Request of R10
87	I	DVDD	+1.8V
88	I	CLK27A	27MHz clock
89	-	DVSS	Ground
90	-	TSTD[0]	(Not used)
91	-	TSTD[2]	(Not used)
92	-	TSTD[1]	(Not used)
93	-	TSTD[3]	(Not used)
94	-	TSTD[5]	(Not used)
95	-	TSTD[4]	(Not used)
96	-	TSTD[6]	(Not used)
97	-	TSTD[7]	(Not used)
98	O	TSTCKO	(Not used)
99	I	DVDD	+1.8V
100	-	DVSS	Ground
101	I	TSTCKI	(Not used)
102	-	TSTD[8]	(Not used)
103	-	TSTD[14]	(Not used)
104	-	TSTD[11]	(Not used)
105	-	TSTD[9]	(Not used)
106	-	TSTD[10]	(Not used)
107	-	TSTD[13]	(Not used)
108	-	TSTD[12]	(Not used)
109	-	TSTM	(Not used)
110	-	TSTD[15]	(Not used)
111	-	SCANEI	(Not used)
112	-	NC	(Not used)

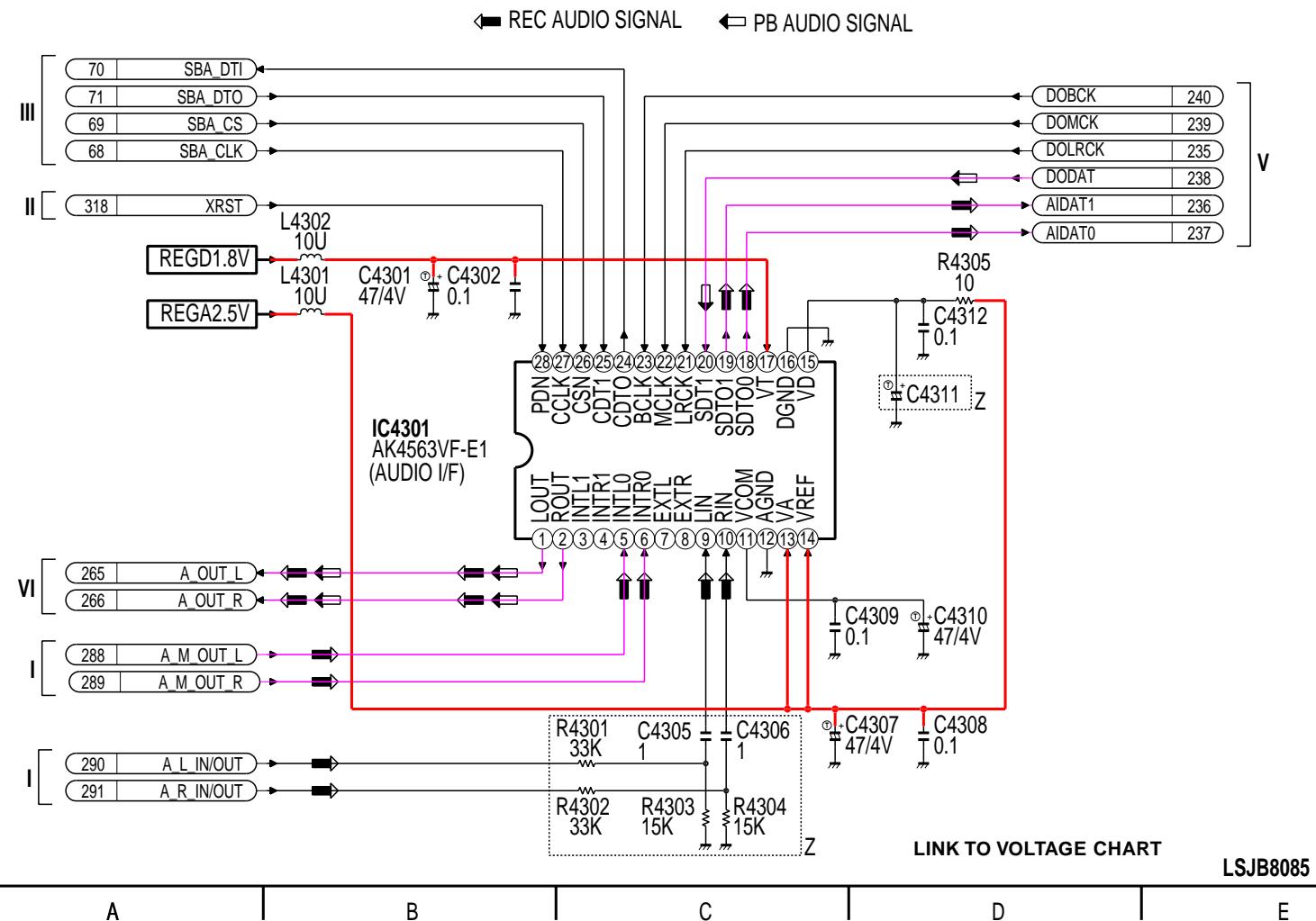
Pin No.	I/O	Signal Name	Description
1	-	VSS	Ground
2	I	MON7	(Not used)
3	I	MON6	(Not used)
4	I	MON5	(Not used)
5	I	MON4	(Not used)
6	I	VCC	+1.8V
7	I	MON3	(Not used)
8	I	MON2	(Not used)
9	I	MON1	(Not used)
10	I	MON0	(Not used)
11	-	VSS	Ground
12	I	VCCA	+3.0V
13	-	GNDA	Ground
14	I/O	TPBN	Transaction data B(-)
15	I/O	TPBP	Transaction data B(+)
16	I	VCCA	+3.0V
17	I/O	TPAN	Transaction data A(-)
18	I/O	TPAP	Transaction data A(+)
19	-	TPBIAS	Trabsactuib dias
20	-	GNDA	Ground
21	-	R0	Current set 0
22	-	R1	Current set 1
23	I	VCCA	+3.0V
24	-	PLLFLT1	PLL filter 1
25	-	PLLFLT0	PLL filter 0
26	I	VDDPLL	+3.0V
27	-	VSSPLL	Ground
28	I	XI	24.576MHz clock
29	I	PWRDN	Power down
30	I	XPRST	Reset : low
31	O	CNA	PLANET cable connection information
32	I	VCC	+1.8V
33	O	XINTP	Interrupt
34	I	XLRST	Reset : low
35	I	LREQ	(Not used)
36	I	SYSCLK	(Not used)
37	-	VSS	(Not used)
38	I	CTL1	(Not used)
39	I	CTL0	(Not used)
40	I	D7	(Not used)
41	I	D6	(Not used)
42	I	VCC	+1.8V
43	I	D5	(Not used)
44	I	D4	(Not used)
45	I	D3	(Not used)
46	I	D2	(Not used)
47	-	VSS	Ground
48	I	D1	(Not used)
49	I	D0	(Not used)
50	I/O	ADM15	Address/data 15

Pin No.	I/O	Signal Name	Description
51	I/O	ADM14	Address/data 14
52	I	VCC	+1.8V
53	I/O	ADM13	Address/data 13
54	I/O	ADM12	Address/data 12
55	I/O	ADM11	Address/data 11
56	I/O	ADM10	Address/data 10
57	-	VSS	Ground
58	I/O	ADM9	Address/data 9
59	I/O	ADM8	Address/data 8
60	I/O	ADM7	Address/data 7
61	I/O	ADM6	Address/data 6
62	I	VCC	+1.8V
63	I/O	ADM5	Address/data 5
64	I/O	ADM4	Address/data 4
65	I/O	ADM3	Address/data 3
66	I/O	ADM2	Address/data 2
67	-	VSS	Ground
68	I/O	ADM1	Address/data 1
69	I/O	ADM0	Address/data 0
70	I	F SCLK	(Not used)
71	I	XRE	Read enable
72	I	VCC	+1.8V
73	I	XWEL	Write enable
74	I	AS	Address strobe
75	I/O	DBP3	Digital data for DV 3
76	I/O	DBP2	Digital data for DV 2
77	I	ACKP	Acknowledge for PLANET
78	-	VSS	Ground
79	I/O	DBP1	Digital data for DV 1
80	O	REQP	Request of PLANET
81	I/O	DBP0	Digital data for DV 0
82	O	INF	Input frame
83	I	VCC	+1.8V
84	I	SSP	Sector start pulse
85	I	ENSUS	Suspend select (Disable="low",enable="high")
86	I	XTRST	Reset : low
87	-	VSS	Ground
88	O	TDO	Test data
89	I	FRP	Frame pulse
90	I	TMS	Test mode select
91	I	TCK	Test clock
92	I	VCC	+1.8V
93	I	TDI	Test data
94	I	CLK27A	27MHz clock
95	I	VSS	Ground
96	I	TEST3	(Not used)
97	I	TEST2	(Not used)
98	I	TEST1	(Not used)
99	I	TEST0	(Not used)
100	I	VCC	+1.8V

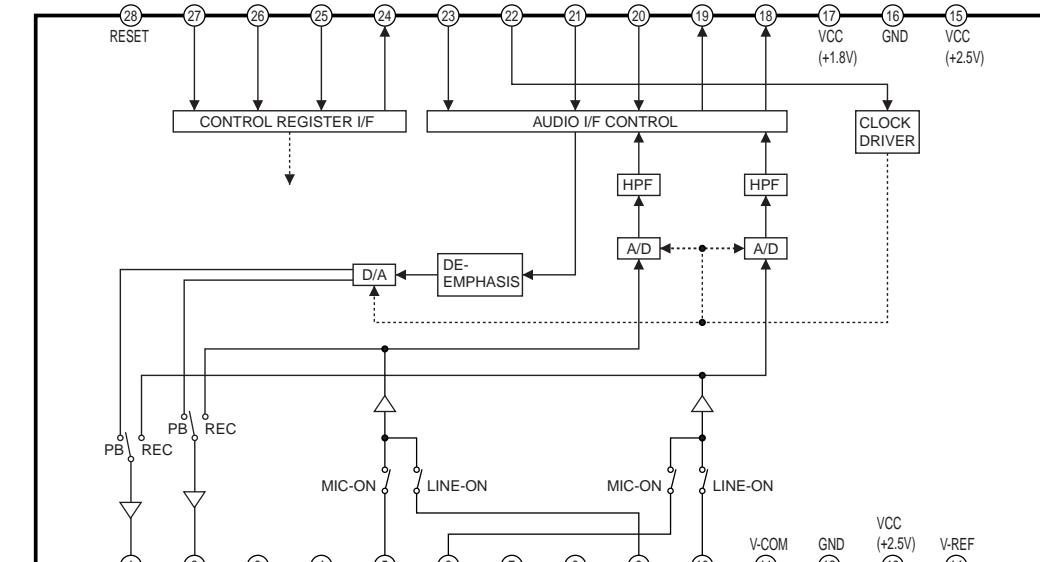
MAIN VIII SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



IC4301 BLOCK DIAGRAM

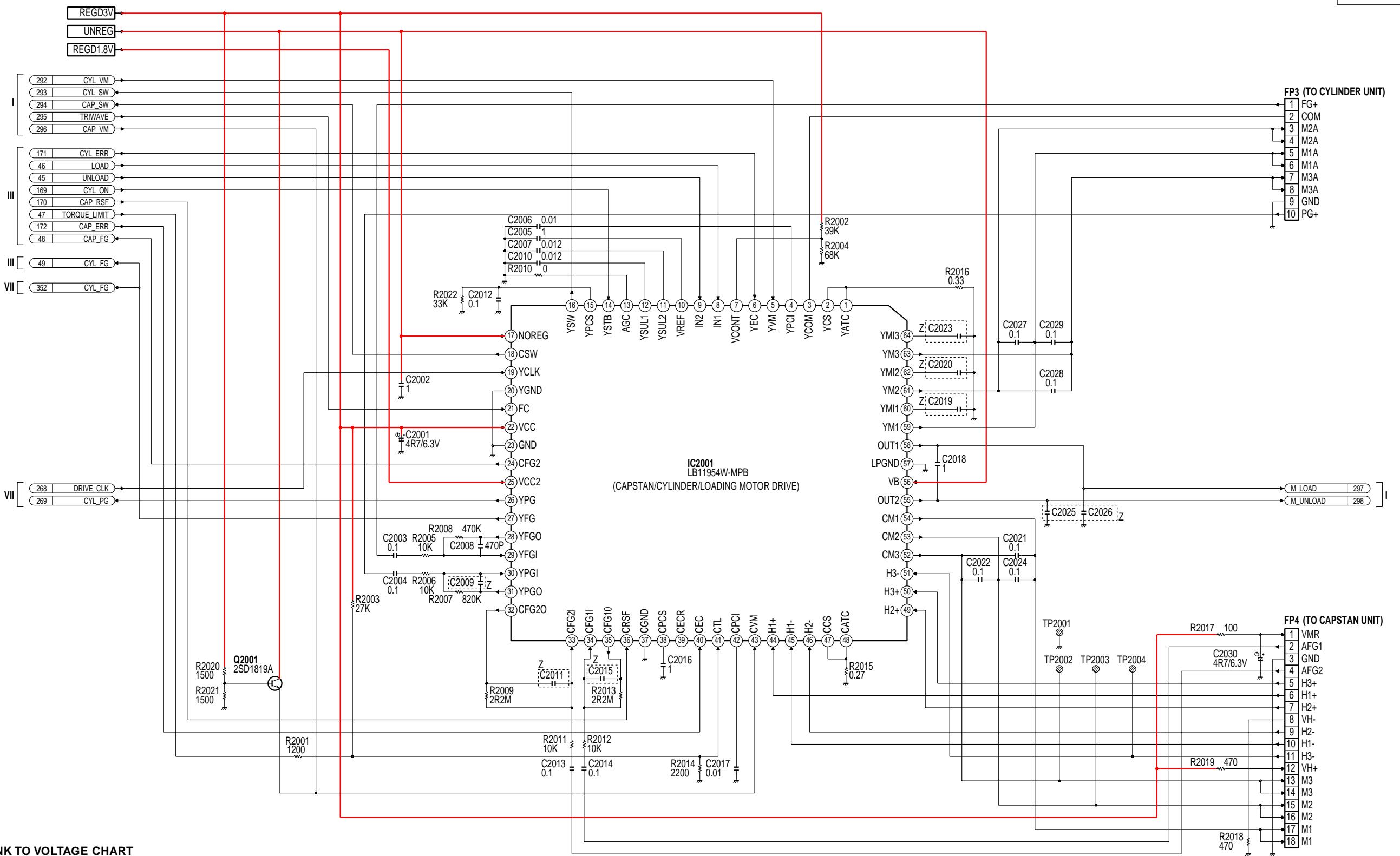


MAIN IX SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

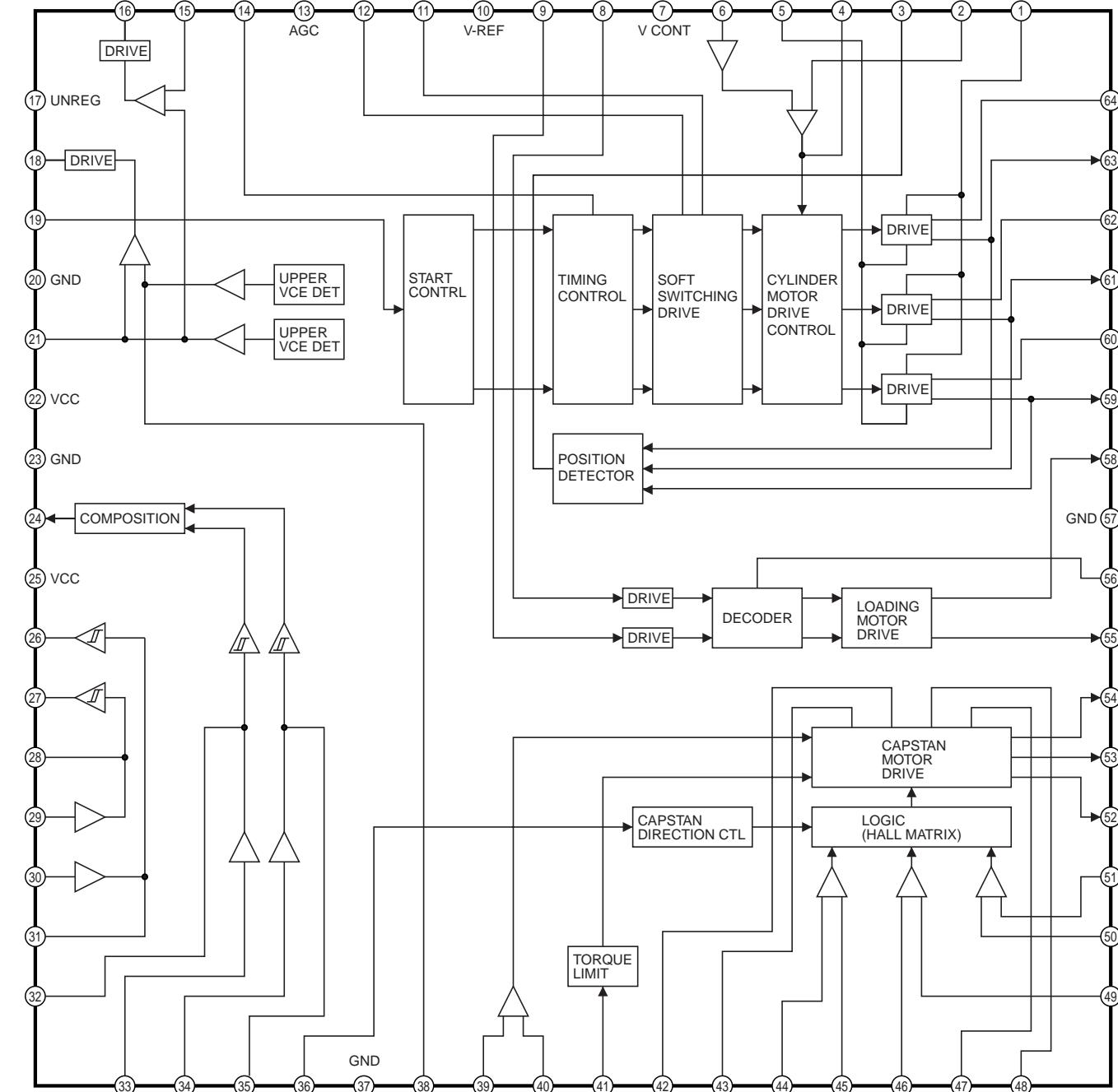
MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



LINK TO VOLTAGE CHART

LSJB8085

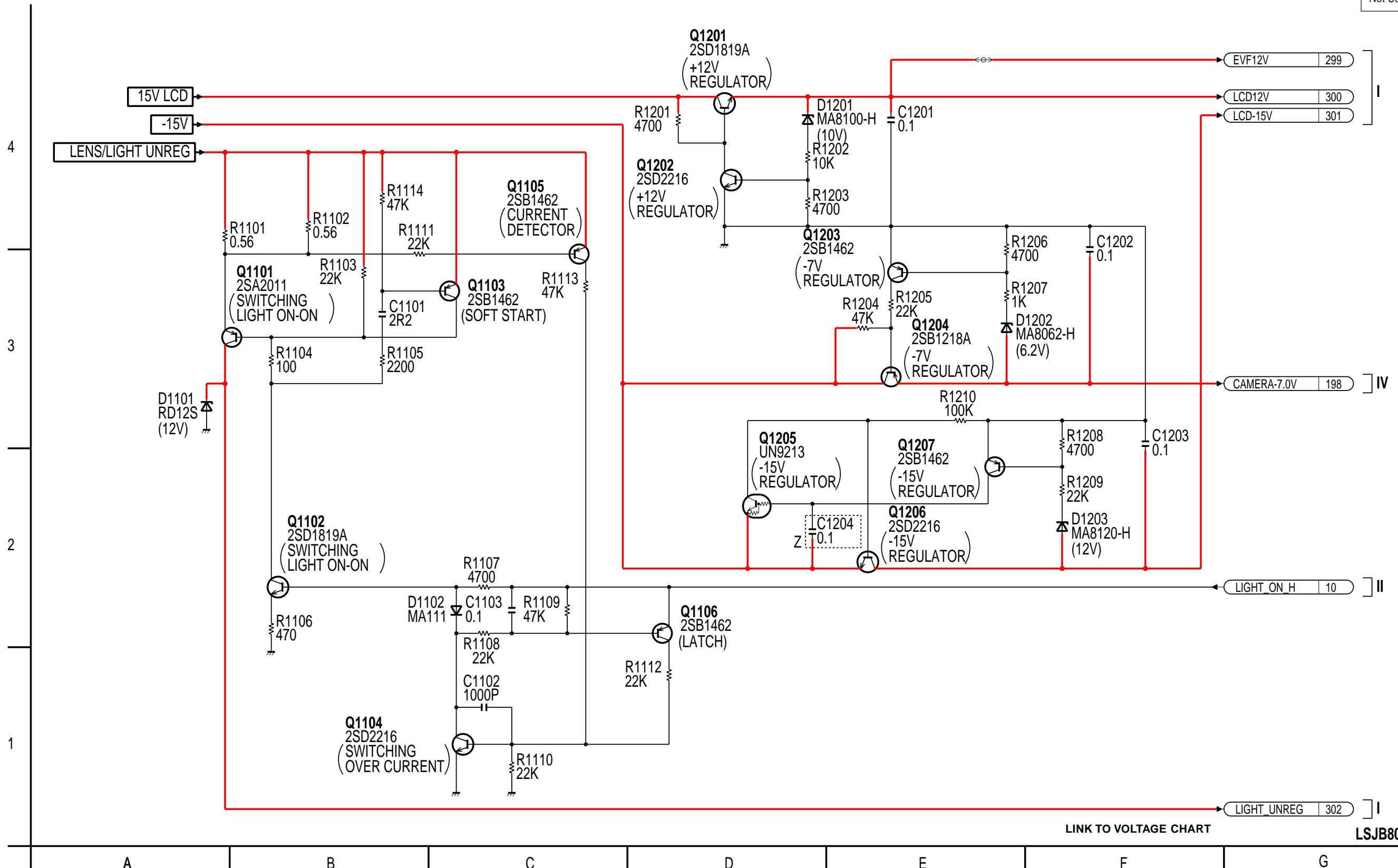
IC2001 BLOCK DIAGRAM



MAIN X SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



LINK TO VOLTAGE CHART

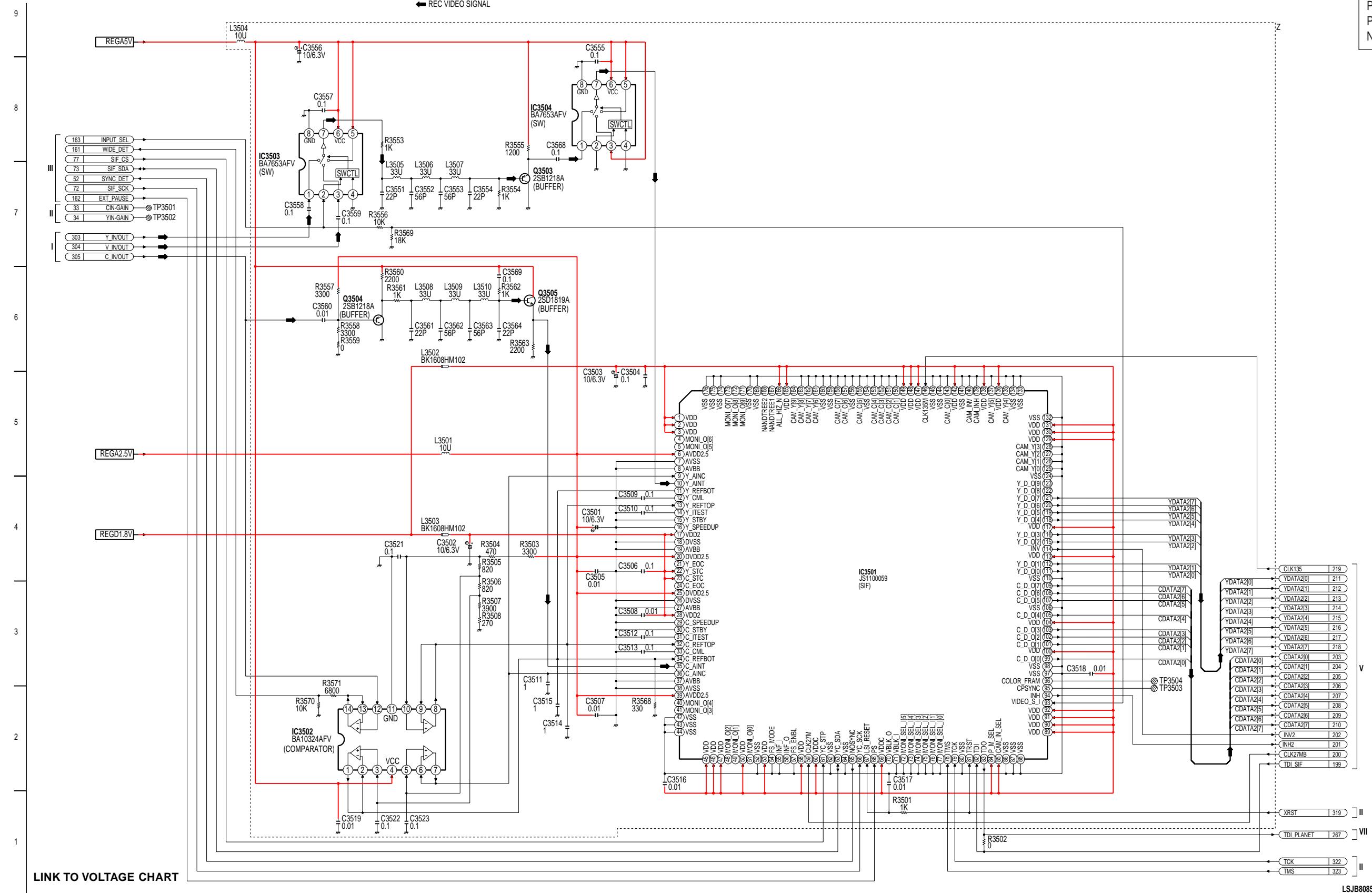
LSJB8085

MAIN XI SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



I/O CHART OF IC3501

Pin No.	I/O	Signal Name	Description
1	I	VDD	+1.8V
2	I	VDD	+1.8V
3	I	VDD	+1.8V
4	O	MONI O[6]	(Not used)
5	O	MONI O[5]	(Not used)
6	I	AVDD2.5	+2.5V
7	-	AVSS	Ground
8	-	AVBB	Ground
9	I	Y AINC	Analog luminance common
10	I	Y AINT	Analog luminance signal
11	I	Y REFBOT	V-ref(L) for luminance
12	-	Y CML	Y A/D internal bias
13	I	Y REFTOP	V-ref(H) for luminance
14	-	Y ITEST	Y A/D internal bias
15	I	Y STBY	Power save standby
16	I	Y SPEEDUP	Speed test pin
17	I	VDD2	+1.8V
18	-	DVSS	Ground
19	-	AVBB	Ground
20	I	DVDD2.5	+2.5V
21	O	Y EOC	(Not used)
22	I	Y STC	(Not used)
23	I	C STC	(Not used)
24	O	C EOC	(Not used)
25	I	DVDD2.5	+2.5V
26	-	DVSS	Ground
27	-	AVBB	Ground
28	I	VDD2	+1.8V
29	-	C SPEEDUP	Speed test pin
30	-	C STBY	Power save standby
31	-	C ITEST	C A/D Internal bias
32	I	C REFTOP	V-ref(H) for chrominance
33	-	C CML	C A/D internal bias
34	I	C REFBOT	V-ref(L) for chrominance
35	I	C AINT	Analog chrominance signal
36	I	C AINC	Analog chrominance common
37	-	AVBB	Ground
38	-	AVSS	Ground
39	I	AVDD2.5	+2.5V
40	-	MONI O[4]	(Not used)
41	-	MONI O[3]	(Not used)
42	-	VSS	Ground
43	-	VSS	Ground
44	-	VSS	Ground

Pin No.	I/O	Signal Name	Description
45	I	VDD	+1.8V
46	I	VDD	+1.8V
47	I	VDD	+1.8V
48	O	MONI O[2]	(Not used)
49	O	MONI O[1]	(Not used)
50	I	VDD	+1.8V
51	O	MONI O[0]	(Not used)
52	-	VSS	Ground
53	I	VDD	+1.8V
54	I	FS MODE	(Not used)
55	I	INF I	(Not used)
56	O	INFO	(Not used)
57	I	FS ENBL	(Not used)
58	I	VDD	+1.8V
59	I	CLK27M	27MHz clock
60	I	VDDC	+1.8V
61	I	YC STP	SIF chip select
62	-	VSS	Ground
63	I/O	YC SDA	SIF serial data
64	-	VSS	Ground
65	O	NOSYNC	No sync detect
66	I	YC SCK	SIF serial clock
67	I	LSI RESET	Reset : low
68	I	PS	Exit pause
69	I	VDDC	+1.8V
70	O	VBLK O	(Not used)
71	I	VBLK I	(Not used)
72	I	MONI SEL I[5]	(Not used)
73	I	MONI SEL I[4]	(Not used)
74	I	MONI SEL I[3]	(Not used)
75	I	MONI SEL I[2]	(Not used)
76	I	MONI SEL I[1]	(Not used)
77	I	MONI SEL I[0]	(Not used)
78	I	TMS	Test mode select
79	I	TCK	Test clock
80	-	VSS	Ground
81	I	TRST	Reset : low
82	I	TDI	Test data input
83	O	TDO	Test data output
84	I	P M SEL	(Not used)
85	I	CAM IN SEL	(Not used)
86	-	VSS	Ground
87	-	VSS	Ground
88	-	VSS	Ground

Pin No.	I/O	Signal Name	Description
89	I	VDD	+1.8V
90	I	VDD	+1.8V
91	I	VDD	+1.8V
92	I	VDD	+1.8V
93	I	VIDEO S I	Input select
94	O	INH	Input H sync
95	O	CPSYNC	Composit sync
96	O	COLOR FRAM	Color frame
97	-	VSS	Ground
98	-	VSS	Ground
99	O	C D O[0]	Chrominance data 0
100	I	VDD	+1.8V
101	O	C D O[1]	Chrominance data 1
102	O	C D O[2]	Chrominance data 2
103	O	C D O[3]	Chrominance data 3
104	I	VDD	+1.8V
105	O	C D O[4]	Chrominance data 4
106	-	VSS	Ground
107	O	C D O[5]	Chrominance data 5
108	O	C D O[6]	Chrominance data 6
109	O	C D O[7]	Chrominance data 7
110	-	VSS	Ground
111	O	Y D O[0]	Luminance data 0
112	O	Y D O[1]	Luminance data 1
113	I	VDD	+1.8V
114	O	INV	Input V sync
115	O	Y D O[2]	Luminance data 2
116	O	Y D O[3]	Luminance data 3
117	I	VDD	+1.8V
118	O	Y D O[4]	Luminance data 4
119	O	Y D O[5]	Luminance data 5
120	O	Y D O[6]	Luminance data 6
121	O	Y D O[7]	Luminance data 7
122	O	Y D O[8]	(Not used)
123	O	Y D O[9]	(Not used)
124	-	VSS	Ground
125	I	CAM Y[0]	(Not used)
126	I	CAM Y[1]	(Not used)
127	I	CAM Y[2]	(Not used)
128	I	CAM Y[3]	(Not used)
129	I	VDD	+1.8V
130	I	VDD	+1.8V
131	I	VDD	+1.8V
132	-	VSS	Ground

Pin No.	I/O	Signal Name	Description
133	-	VSS	Ground
134	-	VSS	Ground
135	I	CAM Y[4]	(Not used)
136	I	VDD	+1.8V
137	I	CAM Y[5]	(Not used)
138	I	VDD	+1.8V
139	I	CAM INH	(Not used)
140	I	CAM INV	(Not used)
141	-	VSS	(Not used)
142	I	VDD	+1.8V
143	I	CAM C[0]	(Not used)
144	-	VSS	Ground
145	-	VSS	Ground
146	I	CLK135M	13.5MHz clock
147	I	VDD	+1.8V
148	I	VDD	+1.8V
149	I	VDD	+1.8V
150	I	CAM C[1]	(Not used)
151	I	CAM C[2]	(Not used)
152	I	CAM C[3]	(Not used)
153	I	CAM C[4]	(Not used)
154	-	VSS	Ground
155	I	CAM C[5]	(Not used)
156	-	VSS	Ground
157	I	CAM C[6]	(Not used)
158	I	CAM C[7]	(Not used)
159	-	VSS	Ground
160	-	VSS	Ground
161	I	CAM Y[6]	(Not used)
162	I	CAM Y[7]	(Not used)
163	I	CAM Y[8]	(Not used)
164	I	CAM Y[9]	(Not used)
165	I	VDD	+1.8V
166	I	ALL HIZ N	(Not used)
167	O	NANDTREE1	(Not used)
168	O	NANDTREE2	(Not used)
169	-	VSS	Ground
170	-	VSS	Ground
171	O	MONI O[9]	(Not used)
172	O	MONI O[8]	(Not used)
173	O	MONI O[7]	(Not used)
174	-	VSS	Ground
175	-	VSS	Ground
176	-	VSS	Ground

MAIN XII SCHEMATIC DIAGRAM (B)

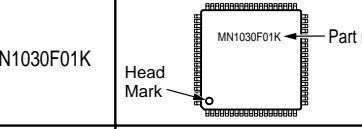
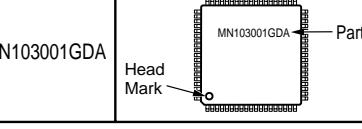
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

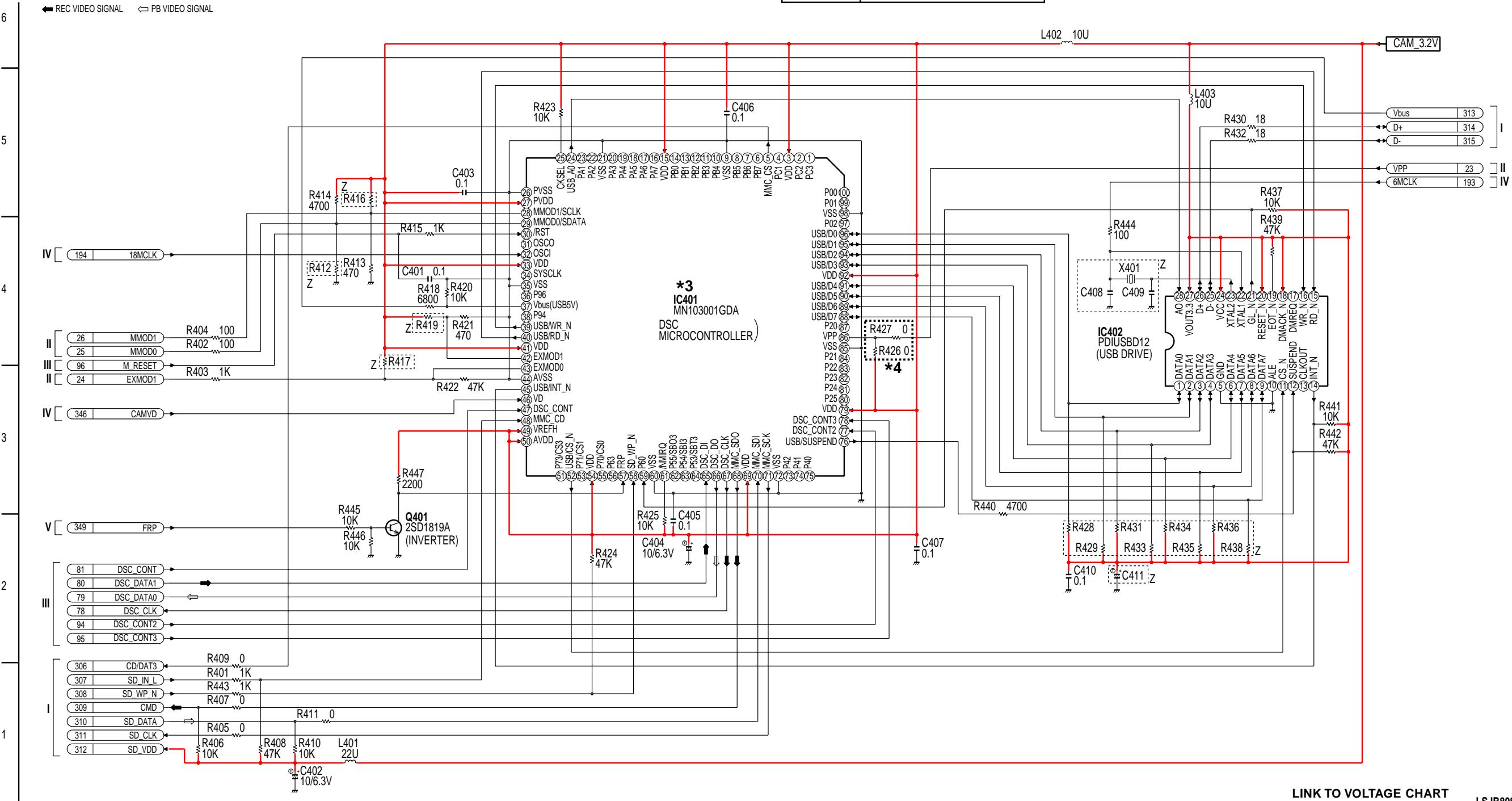
MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z

*3,*4 IC401 replacement note:

Two types of IC401 (MN1030F01K, MN103001GDA) are used on a running change basis.
When replacing IC401, the resistor at the same time. Otherwise, IC401 may have a short life.
Be sure to confirm the part numbers of both the original IC401 and the new one supplied as shown:
When replacing IC401 (MN1030F01K) with IC401 (MN103001GDA), be sure to remove resistor (Ref No.R427). Then, install it to R426.

Types of IC401

MN1030F01K	
MN103001GDA	



LINK TO VOLTAGE CHART

LSJB8085

I/O CHART OF IC401

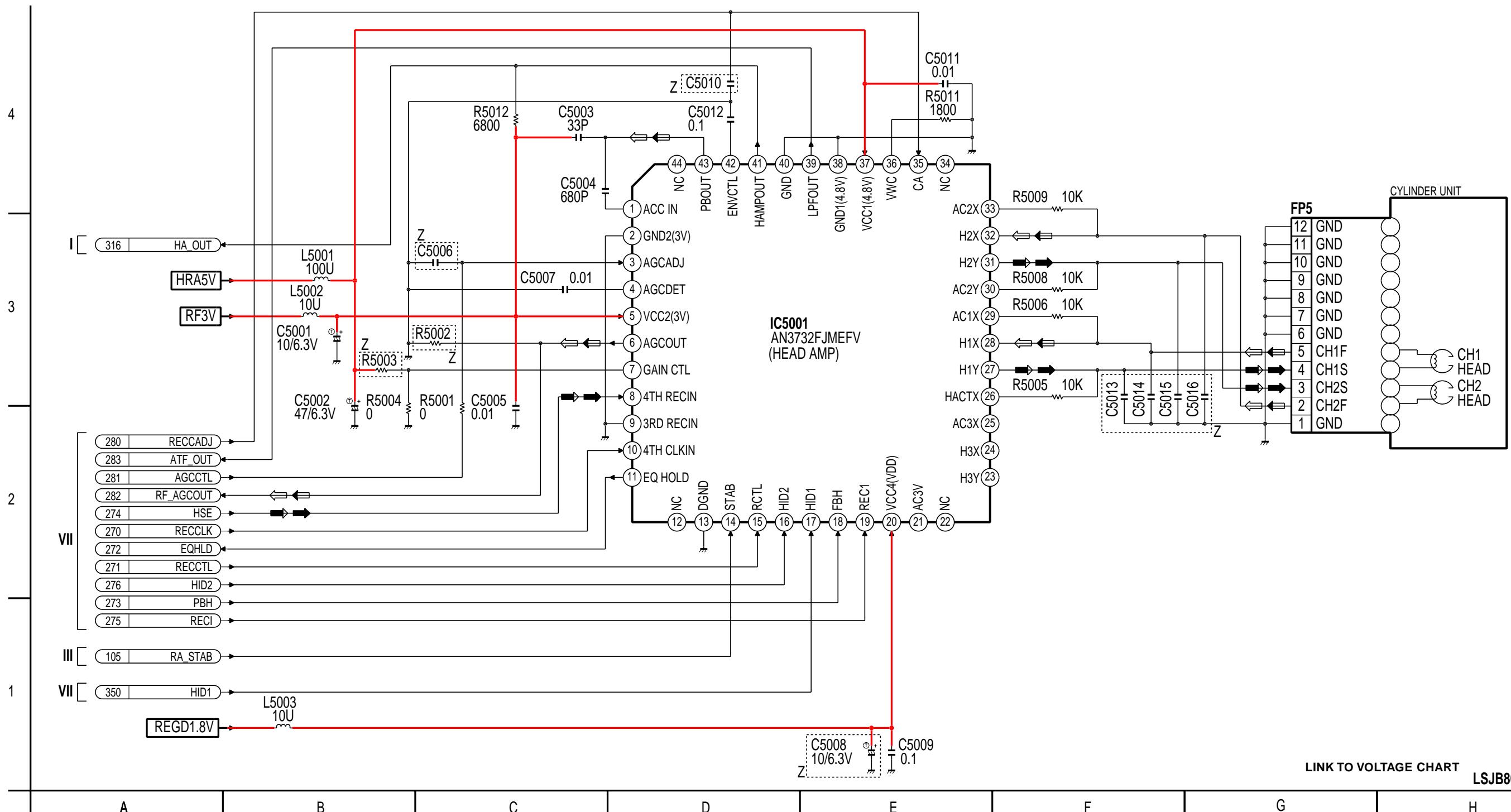
Pin No.	I/O	Signal Name	Description
1	-	PC3	(Not used)
2	-	PC2	(Not used)
3	I	VDD	+3.2V
4	-	PC1	(Not used)
5	O	MMC CS	MMC chip select
6	-	PB7	(Not used)
7	-	PB6	(Not used)
8	-	PB5	(Not used)
9	-	VSS	Ground
10	-	PB4	(Not used)
11	-	PB3	(Not used)
12	-	PB2	(Not used)
13	-	PB1	(Not used)
14	-	PB0	(Not used)
15	I	VDD	+3.2V
16	-	PA7	(Not used)
17	-	PA6	(Not used)
18	-	PA5	(Not used)
19	-	PA4	(Not used)
20	-	PA3	(Not used)
21	-	VSS	Ground
22	-	PA2	(Not used)
23	-	PA1	(Not used)
24	O	USB A0	USB address
25	I	CKSEL	(Not used)
26	-	PVSS	Ground
27	I	PVDD	+3.2V
28	-	MMOD1/SCLK	Write clock for Flash Micon
29	-	MMOD0/SDATA	Write data for Flash Micon
30	I	/RST	Reset : low
31	-	OSCO	(Not used)
32	I	OSCI	18MHz clock
33	I	VDD	+3.2V
34	-	SYSCLK	(Not used)
35	-	VSS	Ground
36	-	P96	(Not used)
37	-	Vbus(USB5V)	USB +5V
38	-	P94	(Not used)
39	O	USB/WR N	USB write control
40	O	USB/RD N	USB read control
41	I	VDD	+3.2V
42	-	EXMOD1	(Not used)
43	-	EXMOD0	Write mode select for Flash Micon
44	-	AVSS	Ground
45	I	USB/INT N	USB interrupt
46	I	VD	V-sync pulse
47	I	DSC CONT	DSC control
48	I	MMC CD	SD card/MMC in detect : low
49	I	VREFH	V-ref (+3.2V)
50	I	AVDD	+3.2V

Pin No.	I/O	Signal Name	Description
51	-	P73/CS3	(Not used)
52	O	USB/CS N	USB chip select : low
53	-	P71/CS1	(Not used)
54	I	VDD	+3.2V
55	-	P70/CS0	(Not used)
56	-	P63	(Not used)
57	I	FRP	Flame pulse
58	I	SD WP N	SD write protect : low
59	I	P60	USB Link indicator
60	-	VSS	Ground
61	-	/NMIRQ	(Not used)
62	-	P55/SBO3	(Not used)
63	-	P54/SBI3	(Not used)
64	-	P53/SBT3	(Not used)
65	O	DSC D1	DSC serial data 1
66	I	DSC D0	DSC serial data 0
67	O	DSC CLK	DSC serial clock
68	O	MMC SD0	MMC/SD serial data 0
69	I	VDD	+3.2V
70	I	MMC SD1	MMC/SD serial data 1
71	O	MMC SCK	MMC/SD serial clock
72	-	VSS	Ground
73	-	P42	(Not used)
74	-	P41	(Not used)
75	-	P40	(Not used)
76	I	USB/SUSPEND	Suspend control
77	I	DSC CONT2	DSC control 2
78	I	DSC CONT3	DSC control 3
79	I	VDD	+3.2V
80	-	P25	(Not used)
81	-	P24	(Not used)
82	-	P23	(Not used)
83	-	P22	(Not used)
84	-	P21	(Not used)
85	-	VSS	Ground
86	-	VPP	VDD for Flash Micon
87	-	P20	(Not used)
88	I/O	USB/D7	USB data 7
89	I/O	USB/D6	USB data 6
90	I/O	USB/D5	USB data 5
91	I/O	USB/D4	USB data 4
92	I	VDD	+3.2V
93	I/O	USB/D3	USB data 3
94	I/O	USB/D2	USB data 2
95	I/O	USB/D1	USB data 1
96	I/O	USB/D0	USB data 0
97	-	P02	(Not used)
98	-	VSS	Ground
99	-	P01	(Not used)
100	-	P00	(Not used)

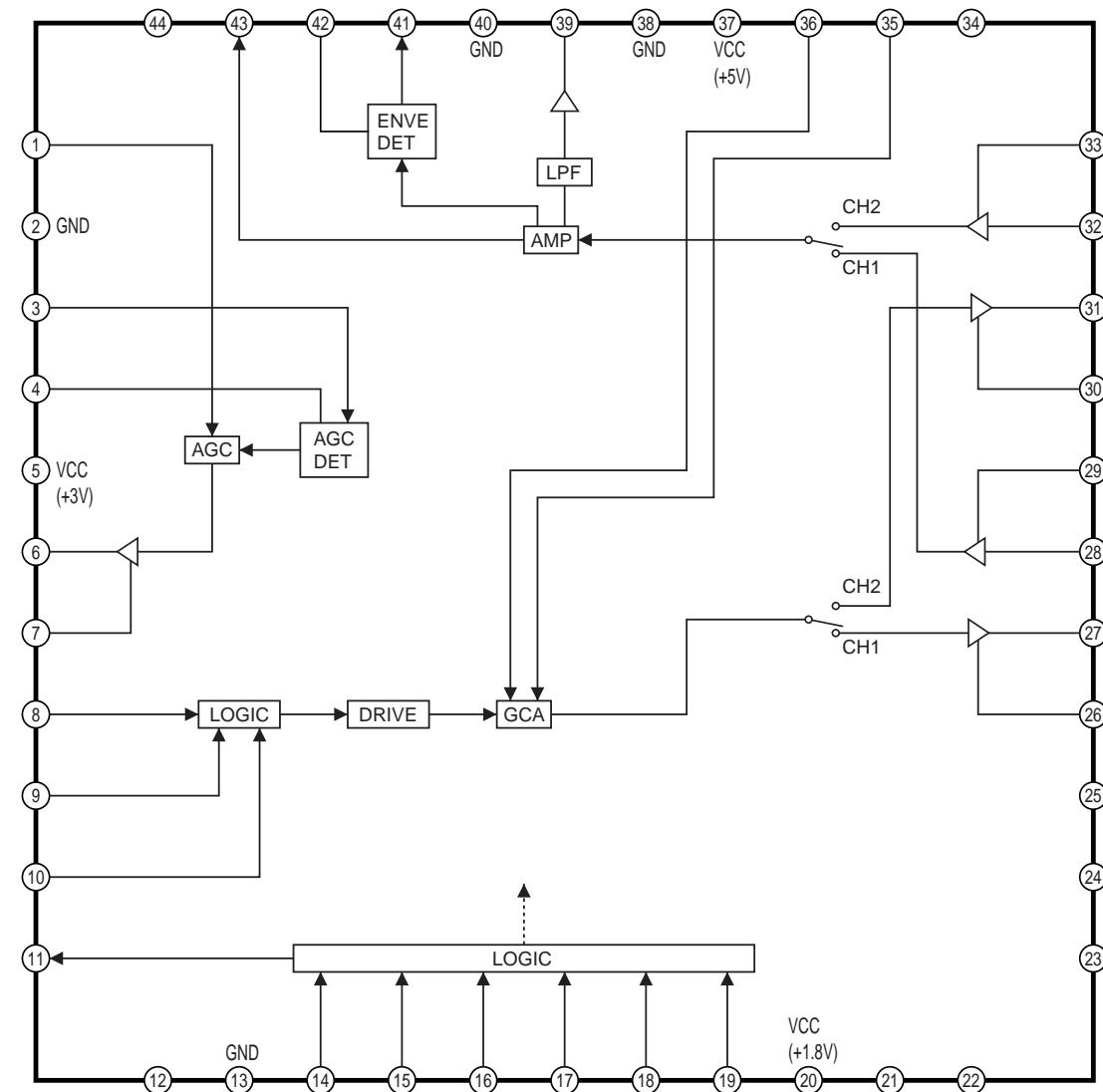
MAIN XIII SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



IC5001 BLOCK DIAGRAM



POWER SCHEMATIC DIAGRAM

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N' UTILISER QUE DES FUSIBLES DE MÊME
TYPE 2A 32V



CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 1A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D'INCENDIE N' UTILISER QUE DES FUSIBLES DE MÊME
TYPE 1A 32V

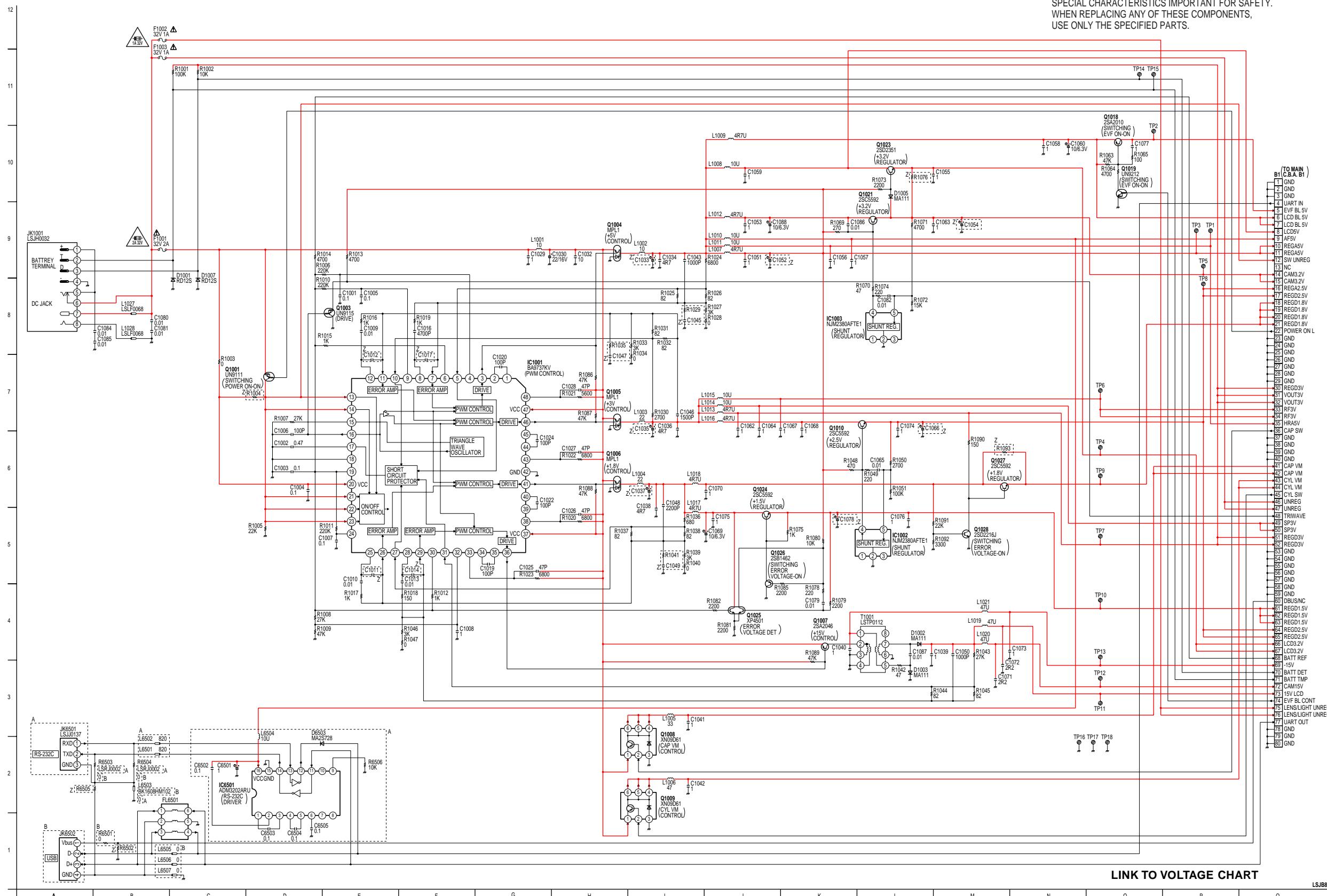


NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



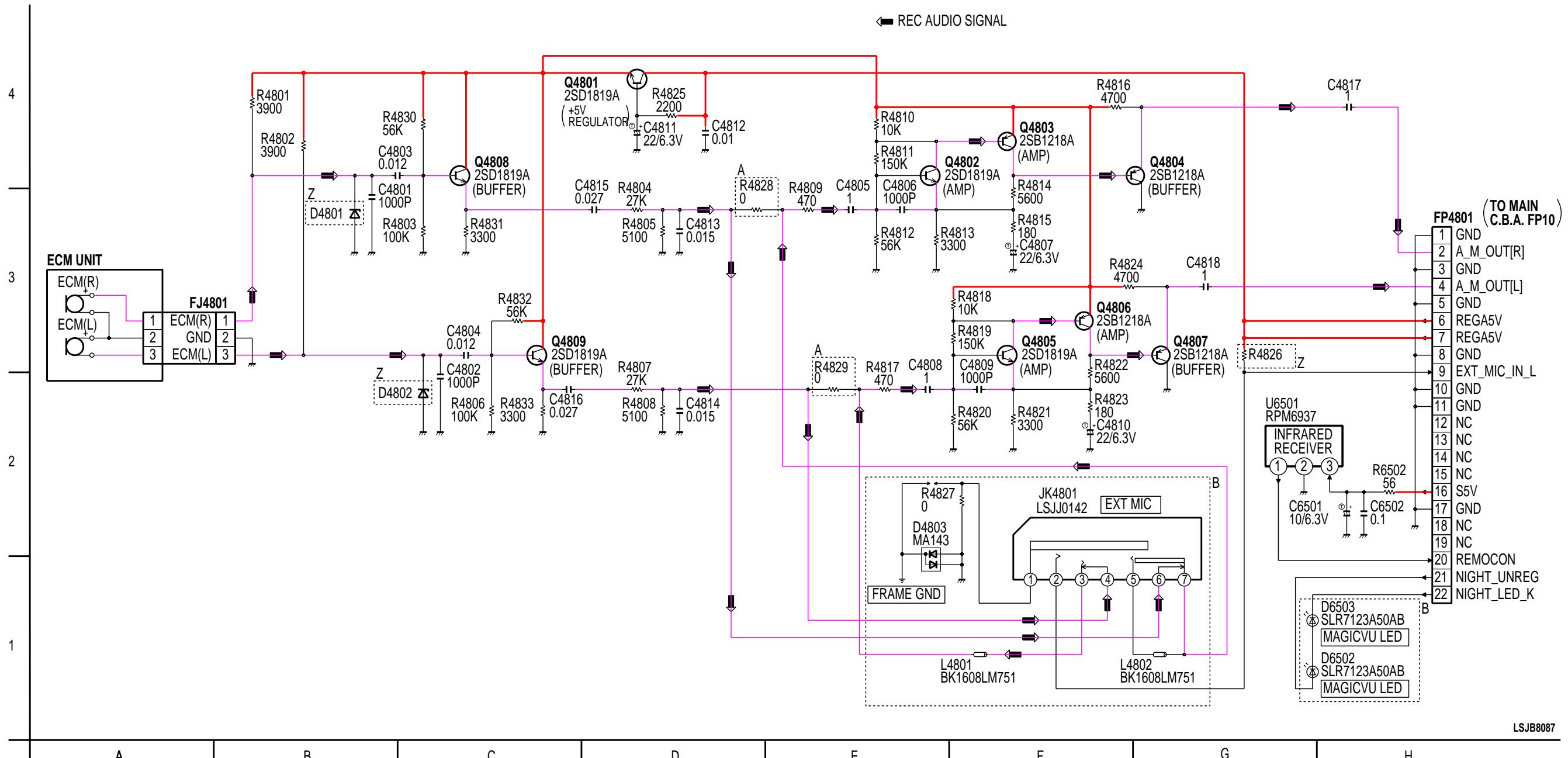
LINK TO VOLTAGE CHART

LSJ6806

MICROPHONE UNIT/FRONT SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS	
MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z

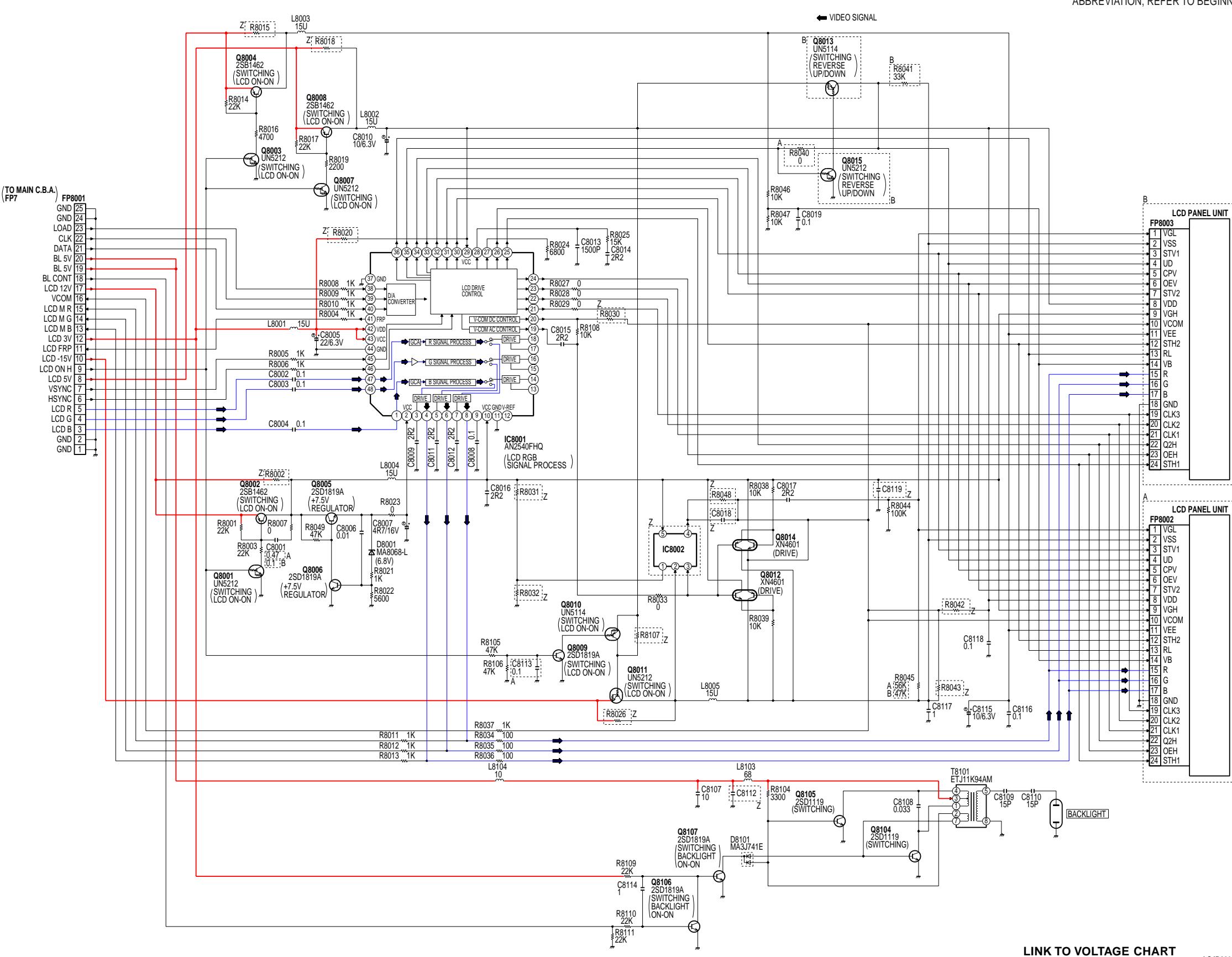


LCD SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



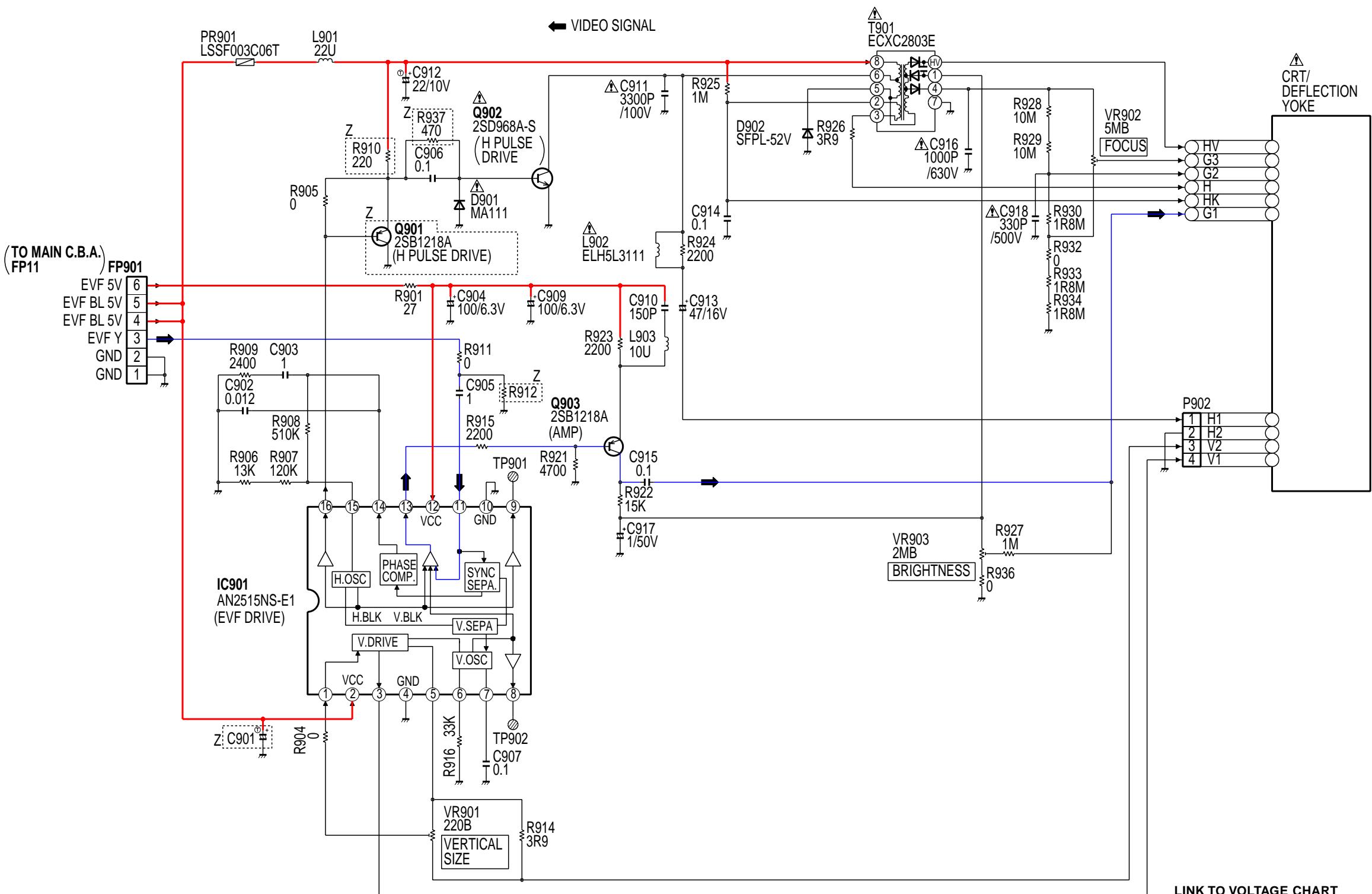
EVF SCHEMATIC DIAGRAM (A)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.



LINK TO VOLTAGE CHART

LSJB8092

A

B

C

D

E

F

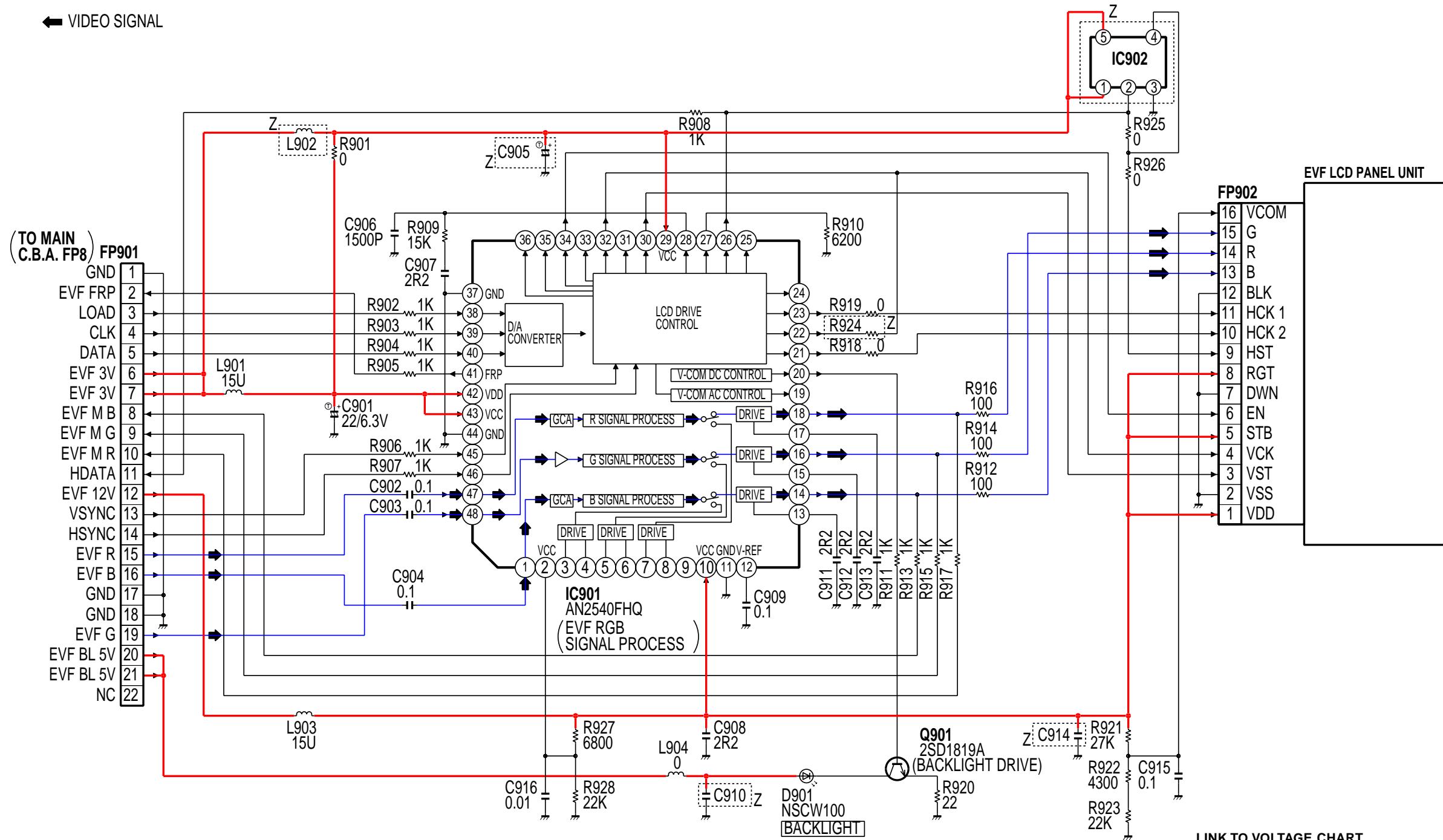
G

H

COLOR EVF SCHEMATIC DIAGRAM (B)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



LINK TO VOLTAGE CHART

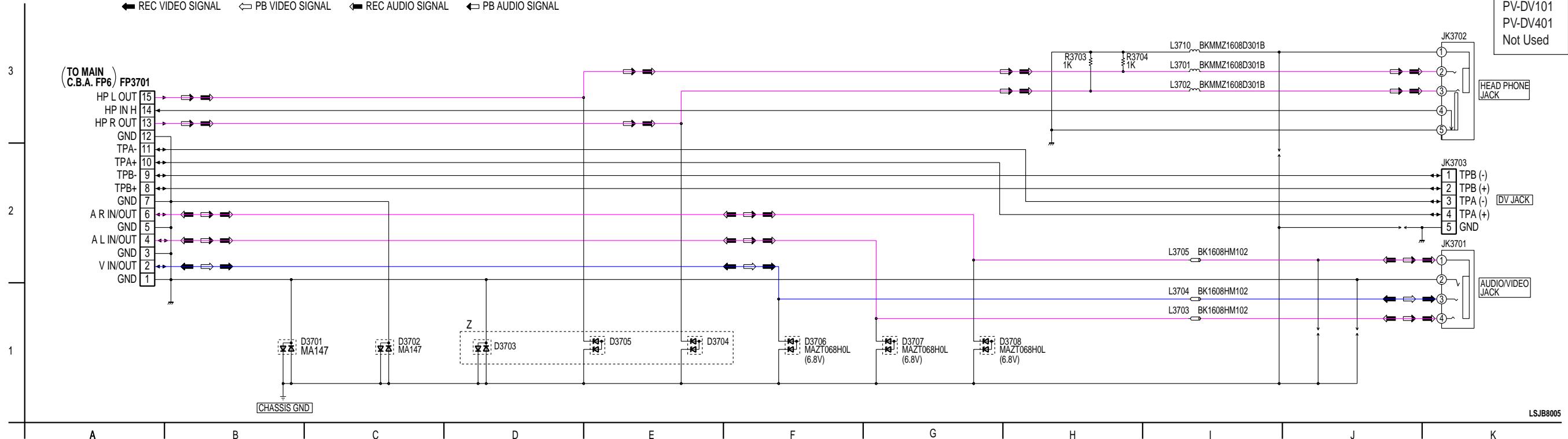
LSJB8093

JACK SCHEMATIC DIAGRAM

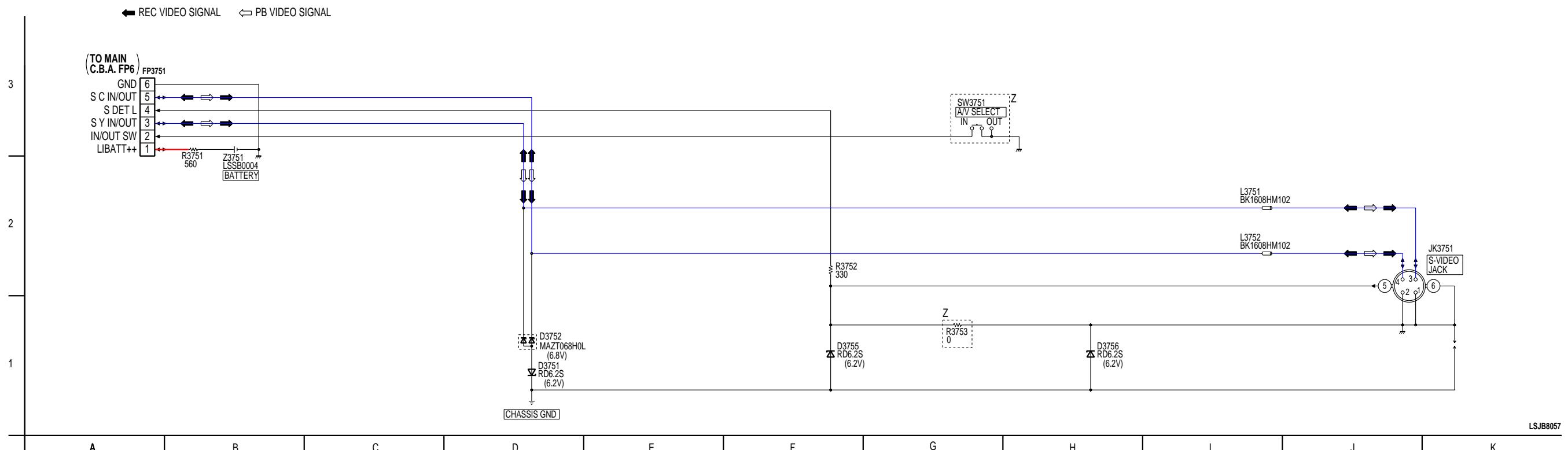
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



S-JACK SCHEMATIC DIAGRAM

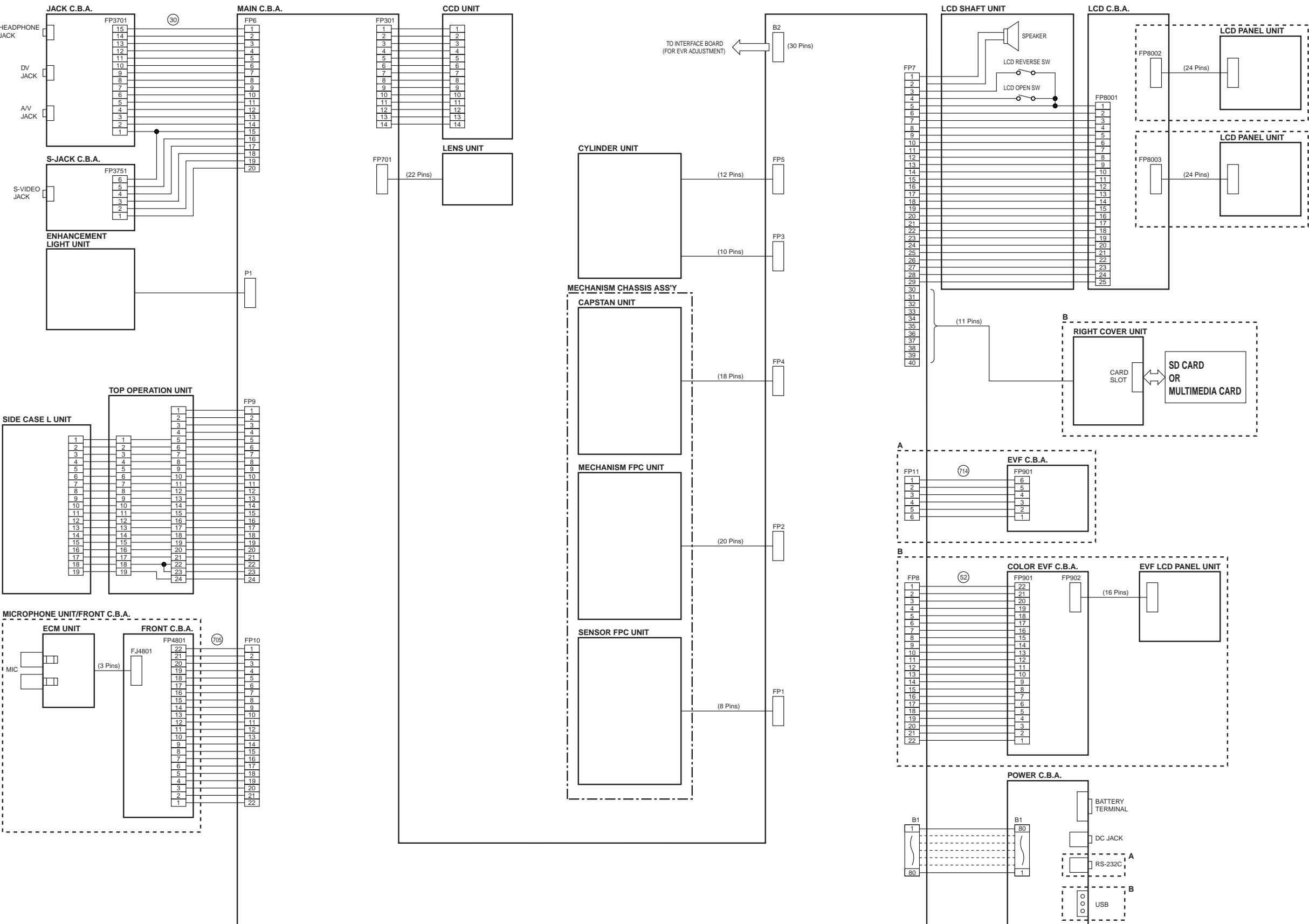


INTERCONNECTION SCHEMATIC DIAGRAM

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES/
ABBREVIATION, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B
Not Used	Z



MAIN C.B.A. (CAMERA SECTION)

MODE	CAMERA
PIN NO.	
IC301	
1	0
2	0
3	1.4
4	1.4
5	1.4
6	1.3
7	2.1
8	2.2
9	0.6
10	0.4
11	0.2
12	0
13	3.0
14	0
15	0
16	1.2
17	3.0
18	0
19	0
20	0.1
21	0
22	0
23	0.1
24	0
25	0
26	0
27	2.9
28	1.2
29	0.7
30	1.5
31	---
32	0.5
33	3.0
34	3.0
35	0
36	0
37	1.5
38	2.0
39	1.0
40	3.0
41	0
42	0
43	3.0
44	0
45	---
46	2.9
47	0
48	3.0
IC302	
1	0
2	3.0
3	3.1
IC303	
1	1.2
2	0
3	0
4	0.9
5	2.8
6	0.9
IC304	
1	0
2	0
3	0.1
4	0.4
5	1.4
6	0
7	2.8
8	1.2
9	2.8
10	0
11	2.9
12	0.7
13	0
14	0
15	2.8
16	2.8
17	0
18	2.8
19	0.2
20	0.2
21	2.5
22	2.5
23	2.9
24	---
25	0
26	3.1
27	0.2
28	0
29	3.1
30	0.5
31	0
32	0
33	3.1
34	2.8
35	1.0
36	0
37	0
38	0.5
39	0
40	0.6
41	0.6
42	2.9
43	0
44	2.8
45	0.8
46	0.1
47	0.6
48	1.4

MODE PIN NO.	CAMERA
IC305	
1	-7.0
2	-7.0
3	-0.5
4	0
5	-0.5
6	2.8
7	0.2
8	2.8
9	0.2
10	2.8
11	---
12	2.5
13	2.8
14	2.5
15	0
16	14.8
17	-6.5
18	-6.5
19	0
20	14.8
IC701	
1	0
2	0
3	---
4	1.1
5	1.1
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	7.6
IC702	
1	0
2	0
3	0
4	1.0
5	1.0
6	0
7	0
8	1.2
9	0
10	0
11	0
12	0
13	0
14	7.6
IC703	
1	0
2	1.7
3	1.7

MAIN C.B.A. (SUB POWER/VIDEO/AUDIO SECTION)

MODE PIN NO.	STOP
IC3002	
1	0
2	4.9
3	0
4	---
5	0.6
6	2.4
7	0.2
8	0
9	0.2
10	2.4
11	2.5
12	2.5
13	0
14	0
15	2.2
16	2.5
17	0
18	1.9
19	0
20	0
21	4.8
22	2.9
23	0
24	1.5
25	1.5
26	0.3
27	0
28	0.1
29	1.4
30	1.9
31	1.4
32	5.0
33	0.7
34	2.9
35	1.1
36	1.9
37	1.2
38	1.3
39	0.8
40	0
41	0
42	0
43	0
44	1.9
45	0
46	0.3
47	1.3
48	0
49	1.5
50	2.4
51	5.0
52	0
53	2.2
54	5.0

MODE	STOP
PIN NO.	
55	0.2
56	1.5
57	1.8
58	1.8
59	1.5
60	2.0
61	2.9
62	1.5
63	0
64	1.5
IC4301	
1	1.2
2	1.2
3	---
4	---
5	1.2
6	1.2
7	---
8	---
9	1.8
10	1.8
11	1.3
12	0
13	2.5
14	2.5
15	2.5
16	0
17	1.9
18	0.5
19	0
20	0.6
21	1.0
22	2.2
23	2.3
24	0
25	0
26	1.9
27	1.9
28	0
Q1101	
E	7.7
C	2.1
B	7.6
Q1102	
E	0
C	7.7
B	0.1
Q1103	
E	7.7
C	7.7
B	7.6
Q1104	
E	0
C	0.1

MODE PIN NO.	STOP
B	0
Q1105	
E	7.7
C	0
B	0.1
Q1106	
E	0
C	0
B	0
Q1201	
E	12.1
C	15.0
B	12.8
Q1202	
E	0
C	12.8
B	0.7
Q1203	
E	0
C	-2.2
B	-0.6
Q1204	
E	-7.0
C	-14.6
B	-6.4
Q1205	
E	-14.5
C	-13.8
B	-14.4
Q1206	
E	-14.5
C	-14.4
B	-13.8
Q1207	
E	0
C	-14.4
B	-0.3
Q3006	
E	1.6
C	2.5
B	2.1
Q3007	
E	1.6
C	2.5
B	2.1
Q3008	
E	1.6
C	2.5
B	2.1
Q3009 (B)	
E	1.6
C	2.5
B	2.2
Q3010	
E	1.6

MODE PIN NO.	STOP
C	2.5
B	2.1
Q3011	(B)
E	1.6
C	2.5
B	2.2
TP3001	1.0
TP3002	0.1
TP3003	1.0
TP3004	0.9
TP3005	0.1
TP3006	0.4
TP3007	1.2
TP3008	0
TP3009	0.1
TP3010	0
TP3011	0.1
TP3014	0.1
TP3015	1.9
TP3016	0
TP3017	0
TP3021	0.2
TP3022	0.1
TP3023	1.9
TP3024	1.9
TP3025	1.9
TP3031	0
TP3032	0
TP3033	0
TP3034	0.2
TP3201	1.8
TP3202	0
TP3204	0.8
TP3205	0
TP3206	0
TP3207	0
TP3208	1.4
TP3209	1.8
TP3210	0
TP3211	0
TP3212	0
TP3901	0
TP3902	0
TP3903	3.2
TP3904	0
TP3905	4.9
TP3906	4.9
TP3907	3.2
TP3908	2.9
TP3909	2.9
TP3910	2.9
TP3911	2.8
TP3912	2.5
TP3913	1.9

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV101	A
PV-DV401	B

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (SYSTEM CONTROL/SERVO SECTION)

MODE PIN NO.	REC	PLAY
IC401 (B)		
1	---	---
2	---	---
3	3.3	3.3
4	---	---
5	2.9	2.9
6	---	---
7	---	---
8	---	---
9	0	0
10	---	---
11	---	---
12	---	---
13	---	---
14	---	---
15	3.2	3.2
16	---	---
17	---	---
18	---	---
19	---	---
20	---	---
21	---	---
22	---	---
23	---	---
24	3.3	3.3
25	3.2	3.2
26	0	0
27	3.3	3.3
28	0	0
29	3.2	3.2
30	0	0
31	---	---
32	1.7	1.7
33	3.3	3.3
34	---	---
35	0	0
36	---	---
37	0	0
38	---	---
39	0	0
40	3.2	3.2
41	3.3	3.3
42	3.2	3.2
43	3.2	3.2
44	0	0
45	3.3	3.3
46	3.2	3.2
47	0	0
48	0	0
49	3.3	3.3
50	3.3	3.3
51	---	---
52	0	0
53	---	---
54	0	0
55	---	---
56	0	0
57	3.2	3.2
58	0	0
59	0	0
60	0	0
61	3.2	3.2
62	---	---
63	---	---
64	---	---
65	3.2	3.2
66	3.2	3.2
67	3.2	3.2
68	3.2	3.2
69	3.3	3.3
70	3.2	3.2
71	3.2	3.2
72	0	0
73	---	---
74	---	---
75	---	---
76	0	0
77	0	0
78	3.2	3.2
79	3.3	3.3
80	---	---
81	---	---
82	---	---
83	---	---
84	---	---
85	0	0
86	0	0
87	---	---
88	3.2	3.2
89	3.2	3.2
90	3.2	3.2
91	0	0
92	3.3	3.3
93	3.2	3.2
94	0	0
95	3.2	3.2
96	3.2	3.2
97	---	---
98	0	0
99	---	---
100	---	---
IC402 (B)		
1	3.2	3.2
2	3.2	3.2
3	0	0
4	3.2	3.2
5	0	0
6	0	0
7	3.2	3.2
8	3.2	3.2

MODE PIN NO.	REC	PLAY
9	3.2	3.2
10	0	0
11	3.2	3.2
12	3.3	3.3
13	---	---
14	3.3	3.3
15	3.2	3.2
16	3.2	3.2
17	---	---
18	3.3	3.3
19	3.2	3.2
20	3.3	3.3
21	3.3	3.3
22	1.4	1.4
23	1.6	1.6
24	3.3	3.3
25	1.1	1.1
26	3.3	3.3
27	3.3	3.3
28	0	0
29	0	0
30	0	0
31	0	0
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	0	0
38	0	0
39	0	0
40	3.2	3.2
41	3.3	3.3
42	3.2	3.2
43	3.2	3.2
44	0	0
45	3.3	3.3
46	3.2	3.2
47	0	0
48	0	0
49	3.3	3.3
50	3.3	3.3
51	---	---
52	0	0
53	---	---
54	3.3	3.3

MODE PIN NO.	REC	PLAY
35	1.1	1.1
36	---	---
37	0	0
38	0.2	0.2
39	---	---
40	1.7	1.7
41	0.3	0.3
42	2.4	2.4
43	7.5	7.5
44	1.5	1.5
45	1.5	1.5
46	0.8	0.8
47	0	0
48	0	0
49	0	0
50	2.2	2.2
51	2.1	2.1
52	0	0
53	0	0
54	0	0
55	0	0
56	6.3	6.3
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0	0
65	0	0
66	0	0
67	0	0
68	0	0
69	0	0
70	0	0
71	0	0
72	0	0
73	0	0
74	0	0
75	0	0
76	0	0
77	0	0
78	3.2	3.2
79	3.3	3.3
80	---	---
81	---	---
82	---	---
83	---	---
84	---	---
85	0	0
86	0	0
87	---	---
88	3.2	3.2
89	3.2	3.2
90	3.2	3.2
91	0	0
92	3.3	3.3
93	3.2	3.2
94	0	0
95	3.2	3.2
96	3.2	3.2
97	---	---
98	0	0
99	---	---
100	---	---
101	0	0
102	0	0
103	0	0
104	0	0
105	0	0
106	0	0
107	0	0
108	0	0
109	0	0
110	0	0
111	0	0
112	0	0
113	0	0
114	0	0
115	0	0
116	0	0
117	0	0
118	0	0
119	0	0
120	0	0
121	0	0
122	0	0
123	0	0
124	0	0
125	0	0
126	0	0
127	0	0
128	0	0
129	0	0
130	0	0
131	0	0
132	0	0
133	0	0
134	0	0
135	0	0
136	0	0
137	0	0
138	0	0
139	0	0
140	0	0
141	0	0
142	0	0
143	0	0
144	0	0
145	0	0
146	0	0
147	0	0
148	0	0
149	0	0
150	0	0
151	0	0
152	0	0
153	0	0
154	0	0
155	0	0
156	0	0
157	0	0
158	0	0
159	0	0
160	0	0
161	0	0
162	0	0
163	0	0
164	0	0
165	0	0
166	0	0
167	0	0
168	0	0
169	0	0
170	0	0
171	0	0
172	0	0
173	0	0
174	0	0
175	0	0
176	0	0
177	0	0
178	0	0
179	0	0
180	0	0
181	0	0
182	0	0
183	0	0
184	0	0
185	0	0
186	0	0
187	0	0
188	0	0
189	0	0
190	0	0
191	0	0
192	0	0
193	0	0
194	0	0
195	0	0
196	0	0
197	0	0
198	0	0
199	0	0
200	0	0
201	0	0
202	0</td	

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

POWER C.B.A.

MODE PIN NO.	CAMERA PIN NO.
IC1002	
1	---
2	0
3	---
4	3.2
5	2.5
IC1003	
1	---
2	0
3	---
4	3.7
5	2.5
IC6501 (A)	
1	7.4
2	9.8
3	0.1
4	0.1
5	0.1
6	0.1
7	---
8	---
9	5.0
10	---
11	3.3
12	5.0
13	0.1
14	-9.1
15	0
16	5.0
Q1010	
E	2.6
C	2.9
B	3.2
Q1018	
E	5.0
C	5.0
B	4.3
Q1019	
E	0
C	0.1
B	2.9
Q1021	
E	3.3
C	5.0
B	3.9
Q1023	
E	3.2
C	5.0
B	3.8
TP1	5.0
TP2	5.0
TP3	5.0
TP4	3.2

**EVF C.B.A.
(A)**

MODE PIN NO.	CAMERA PIN NO.
TP5	3.3
TP6	3.0
TP7	2.9
TP8	2.6
TP9	1.9
TP10	1.6
TP11	15.1
TP12	15.1
TP13	-15.0
TP14	3.0
TP15	2.9
TP16	0
TP17	0
TP18	0
Q901	
13	2.8
14	1.9
15	1.9
16	4.1
Q901	
E	3.2
C	0
B	4.1
Q902	
E	0
C	4.7
B	0.6
Q903	
E	2.5
C	-23.1
B	2.0
TP901	4.0
TP902	4.4
Q901	
E	0.3
C	1.9
B	1.0

**COLOR EVF
C.B.A. (B)**

MODE PIN NO.	CAMERA PIN NO.
IC901	
1	2.1
2	5.0
3	2.1
4	0
5	2.1
6	0.7
7	0
8	4.4
9	4.0
10	0
11	2.0
12	4.7
13	2.8
14	1.9
15	1.9
16	4.1
Q901	
E	3.2
C	0
B	4.1
Q902	
E	0
C	4.7
B	0.6
Q903	
E	2.5
C	-23.1
B	2.0
TP901	4.0
TP902	4.4
Q901	
E	0.3
C	1.9
B	1.0

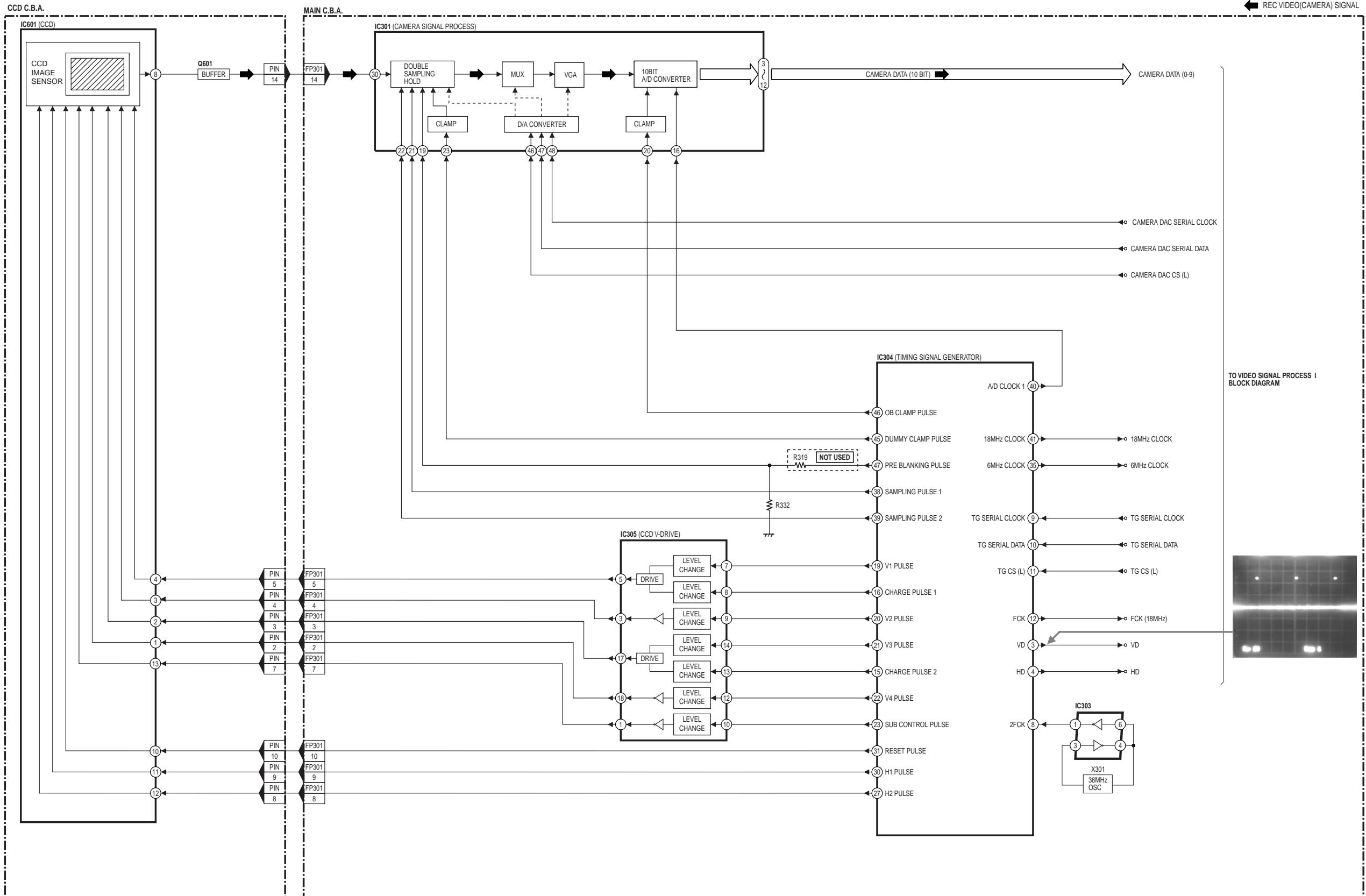
LCD C.B.A.

MODE PIN NO.	CAMERA PIN NO.
IC901	
1	2.6
2	1.8
3	---
4	---
5	---
6	---
7	---
8	---
9	---
10	12.1
11	0
12	6.1
13	0
14	0
15	6.2
16	6.2
17	0
18	6.2
19	---
20	1.0
21	1.5
22	1.6
23	1.6
24	---
25	---
26	0.1
27	1.1
28	0
29	3.2
30	0
31	---
32	1.6
33	---
34	0
35	---
36	---
37	0
38	0
39	2.9
40	1.0
41	1.6
42	3.2
43	3.2
44	0
45	2.9
46	2.7
47	2.6
48	2.6
Q901	
E	0.3
C	1.9
B	1.0

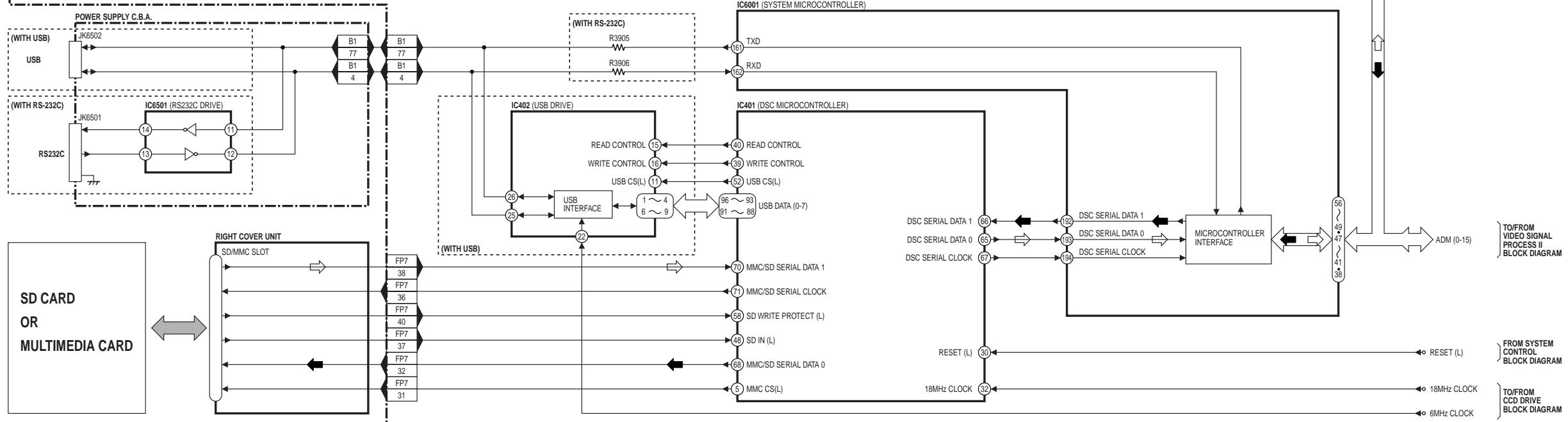
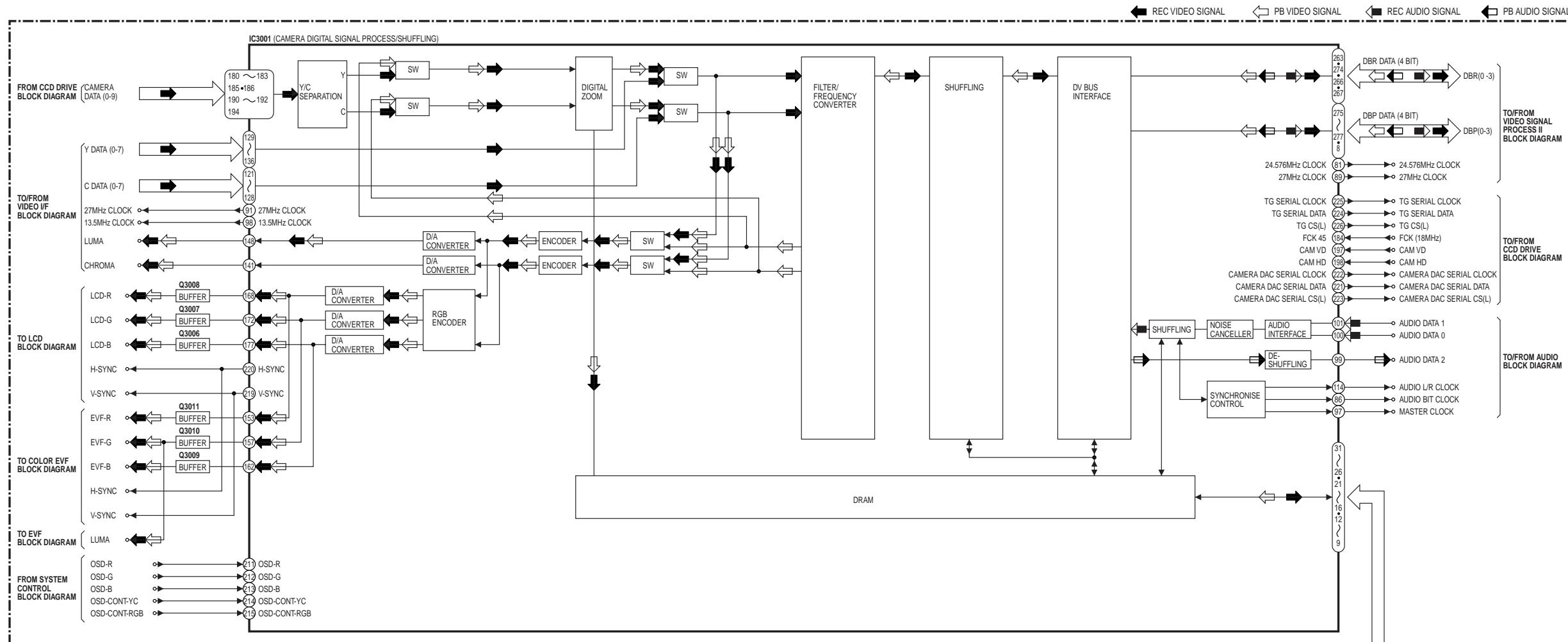
**COMPARISON CHART
OF MODELS & MARKS**

MODEL	MARK
PV-DV101	A
PV-DV401	B

CCD DRIVE BLOCK DIAGRAM

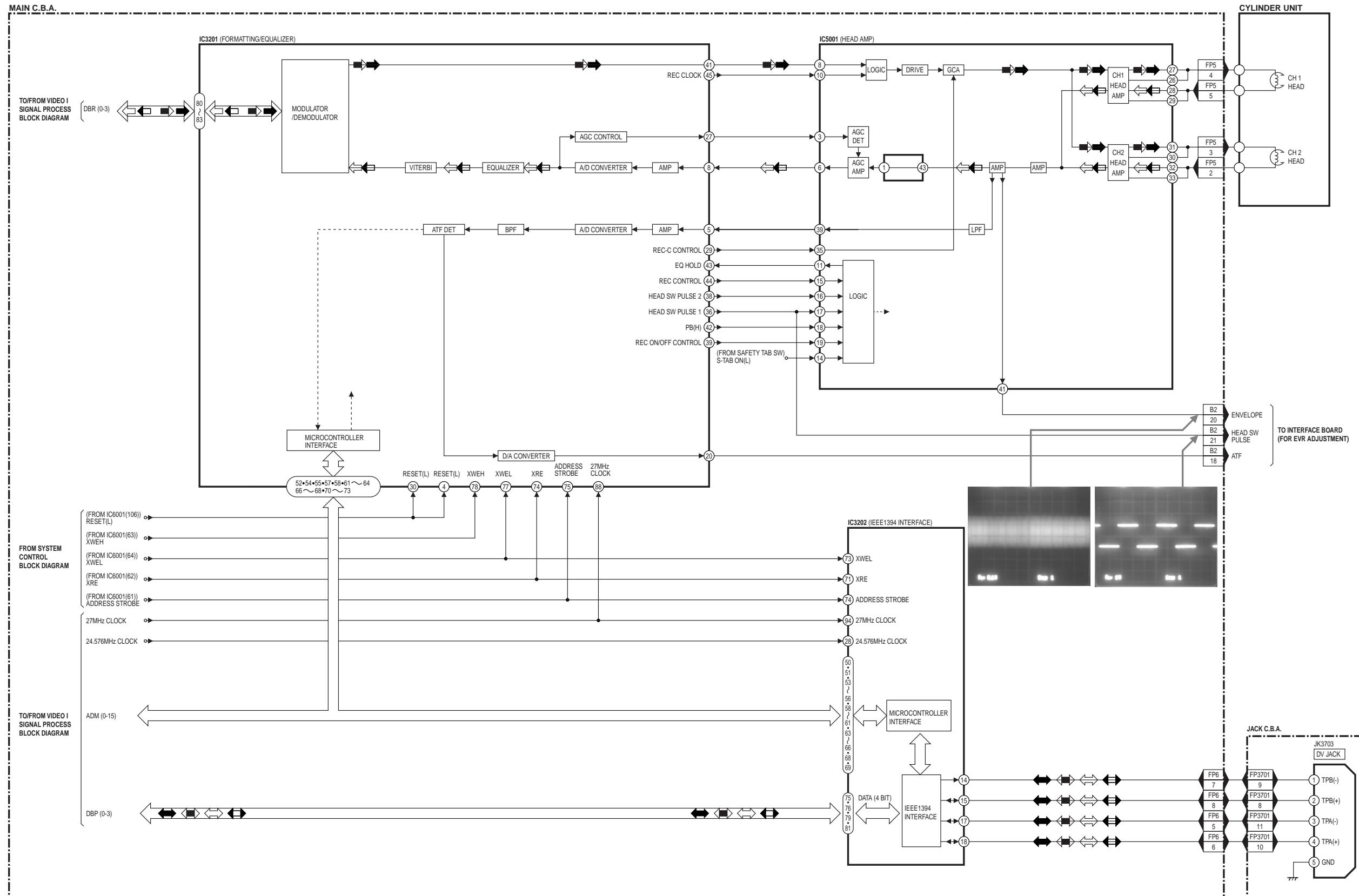


VIDEO SIGNAL PROCESS I BLOCK DIAGRAM

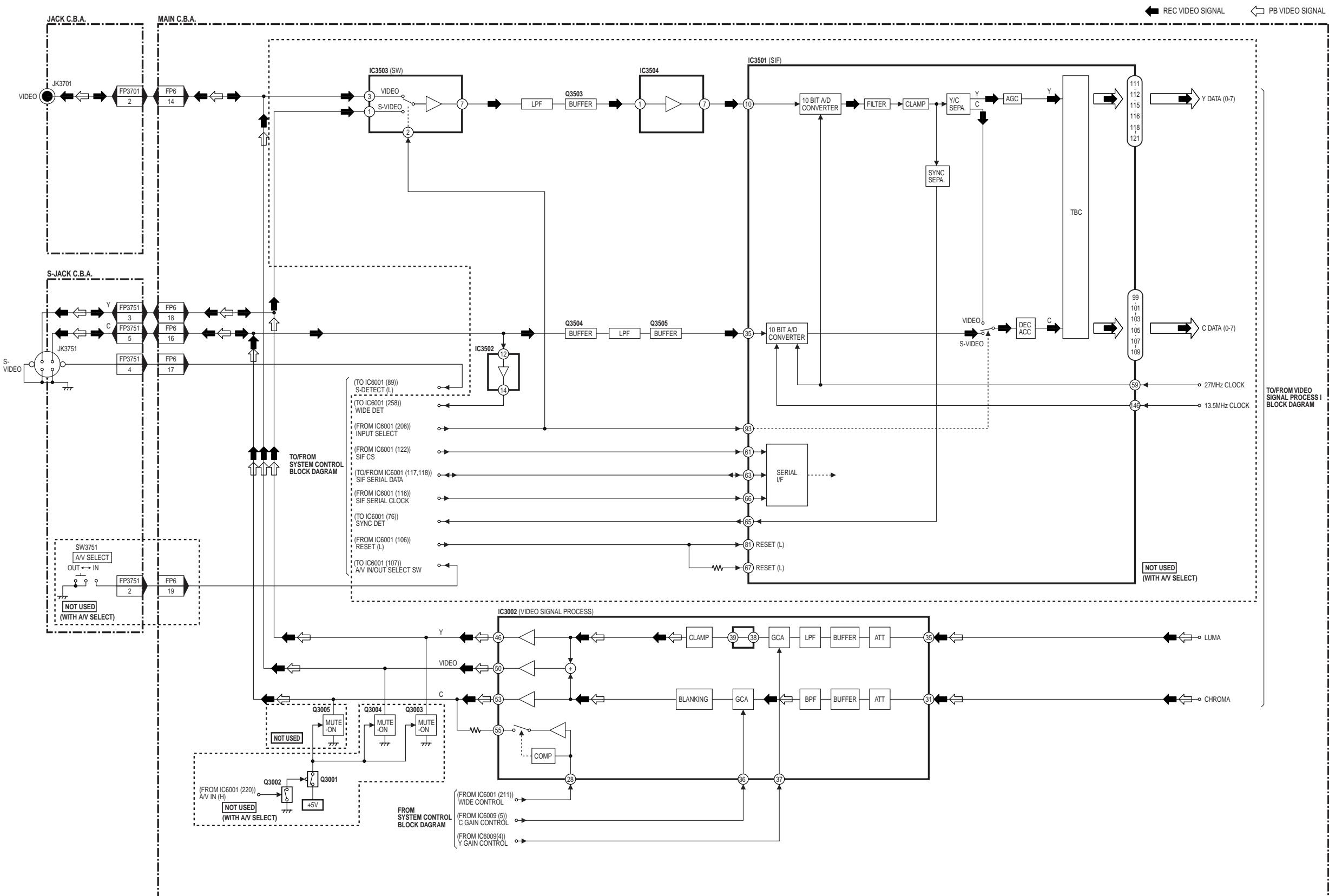


VIDEO SIGNAL PROCESS II BLOCK DIAGRAM

REC VIDEO SIGNAL PB VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL



ANALOG VIDEO I/F BLOCK DIAGRAM



AUDIO SIGNAL PROCESS BLOCK DIAGRAM

